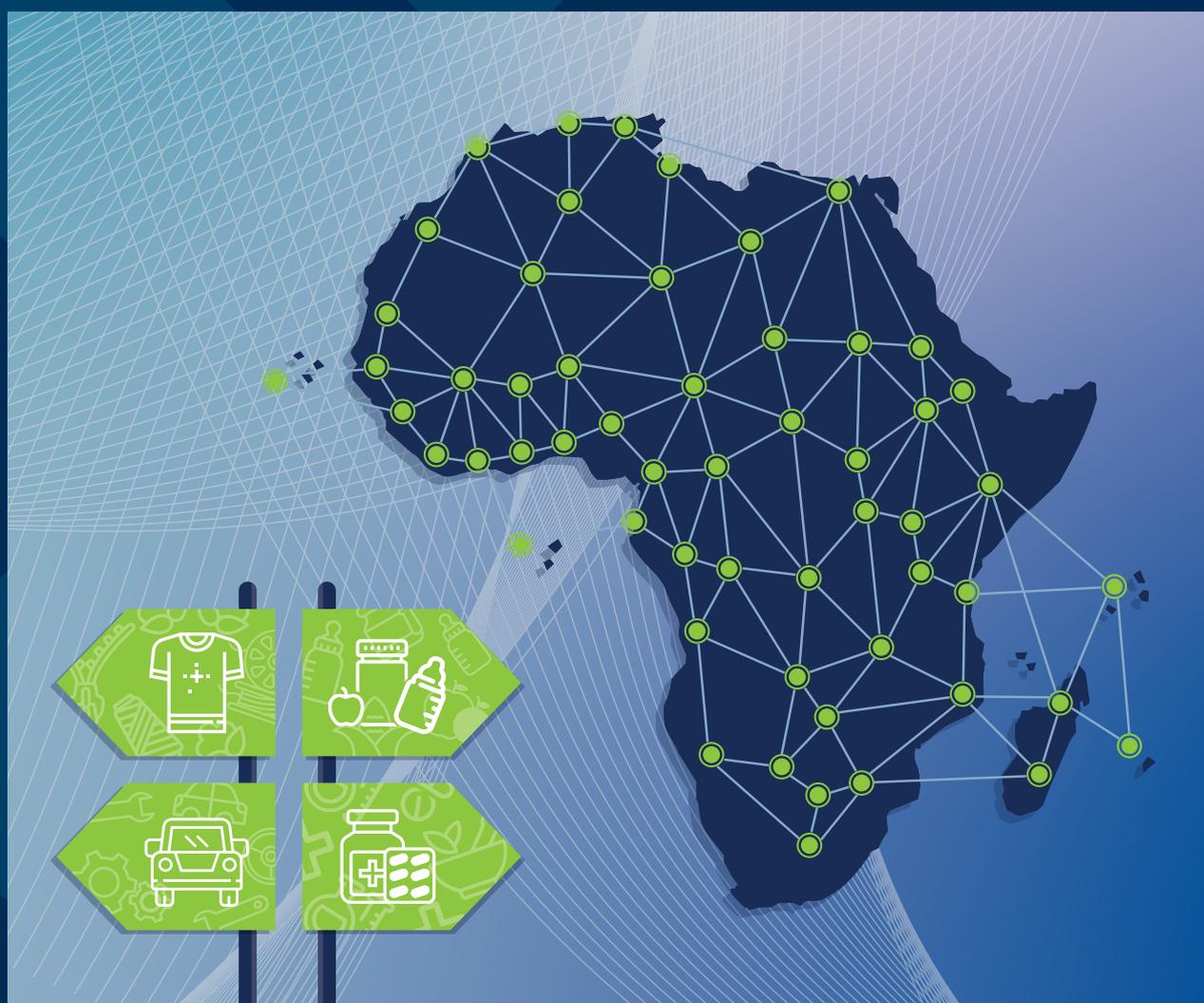


Made by Africa

CREATING VALUE THROUGH INTEGRATION



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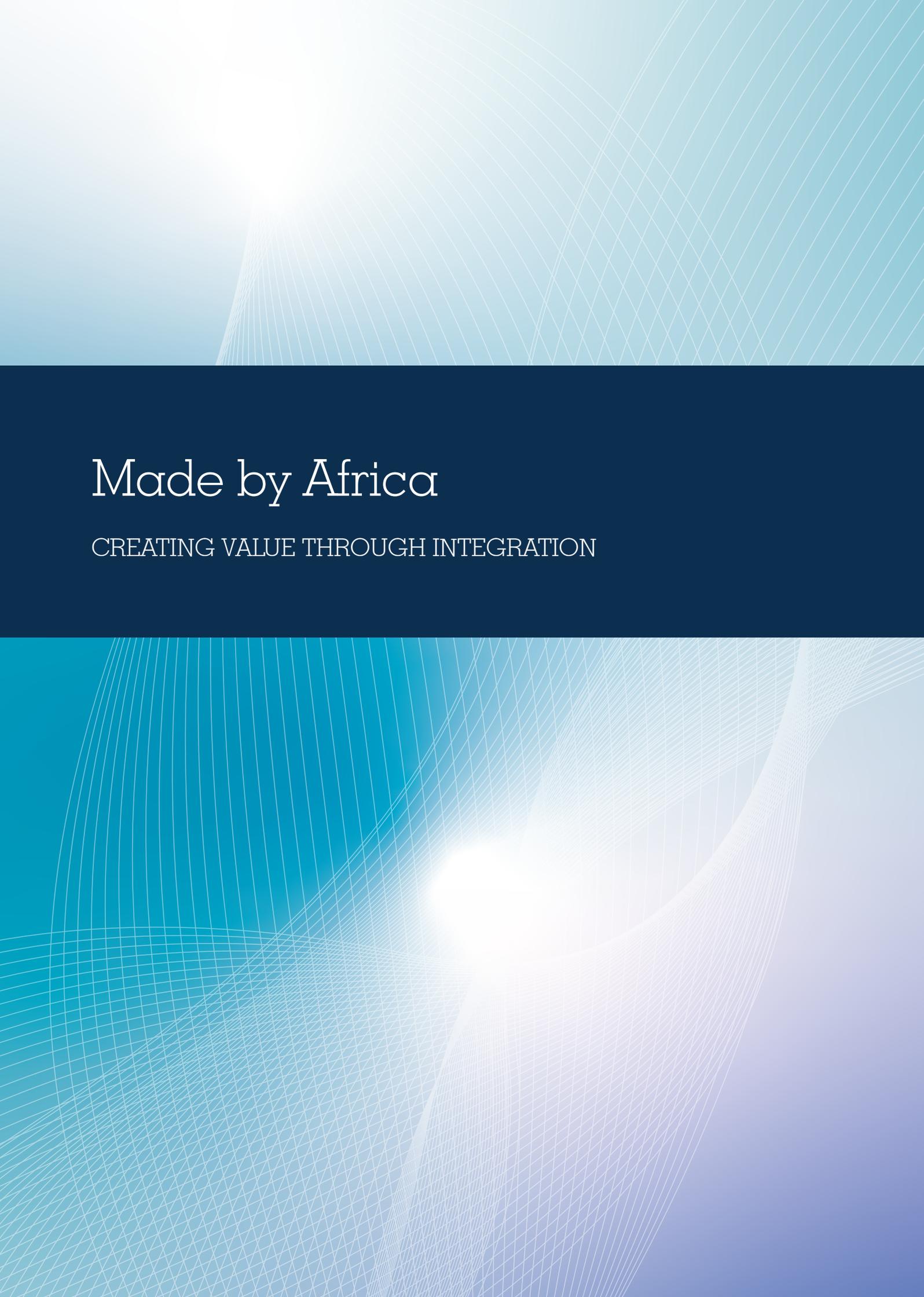
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ABOUT THE REPORT

Pharmaceuticals, baby food, cotton clothing and cars are the four focus value chains of this report. Together they are poised to increase intraregional trade in Africa, reduce imports, diversify economies and create jobs for women and youth.

The sectors were selected from 94 promising value chains and reflect African goals to improve food security, health and tech skills – making them strategic choices for governments and investors. This report offers insights to improve trade in these and other sectors, based on extensive data analysis and interviews with 10,000 firms as well as business support organizations, industry experts and other stakeholders in Africa. It recommends actions to make the opportunities for growth and transformation across the African continent under the AfCFTA a reality.

The European Union and the African Union contributed to the report.

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Foreword

Accelerating productive transformation through industrialization, a higher form of value addition, is at the centre of Africa's agenda towards sustainable development, structural transformation, competitiveness, recovery, resilience and inclusive prosperity and gained in importance in the current complex geopolitical context. The start of trading under the African Continental Free Trade Agreement (AfCFTA) in January 2021 offers Africa the most significant opportunity for socioeconomic progress. It is as of now, Africa's biggest development programme. The AfCFTA becomes even more relevant when viewed against the backdrop of global supply chain disruptions which are bringing in train, inflation and threats of economic recessions.

An integrated continental market of 1.4 billion people and growing, opens up large economies of scale and scope that can attract investments in manufacturing and agro-processing, which in turn, can boost economic diversification and intra-African trade. Projections show that tariff liberalization alone could increase intra-regional trade across Africa by as much as €17 billion while removing other market frictions could unlock another €19 billion.

The AfCFTA joins the Regional Economic Communities as building blocks to deeper continent-wide economic integration, and in the process, improving the prospects for the establishment of the African Economic Community. With respect to inclusive sustainable industrialization, the development of regional and continental value chains becomes more viable with a large market offered by the African Continental Free Trade Area. This in turn opens possibilities for Africa to trade her way to prosperity through export of manufactured and agro-processed goods as well as trade in services in other world markets.

The publication, *Made by Africa*, highlights vast opportunities in the development of regional and continental value chains across the continent. The task ahead is to promote effective collaboration among policy makers, investors, manufacturers and agro-processors. The material in the publication was selected as part of a joint research commissioned by the Department of Economic Development, Trade, Tourism, Industry and Minerals (ETTİM) of the African Union Commission and the Directorate-General for International Partnerships (DG INTPA) of the European Commission. The research was conducted by the International Trade Centre.

The diagnostic study reveals ninety-four (94) potential value chains at the African continental level. Each of them links at least five African countries from different regions and offers the potential to add value, reduce imports, boost trade, diversify economies and open opportunities for women and youth. The value chains covered in the publication span four strategic sectors: pharmaceuticals, infant food, cotton clothing and the automotive sector.

Investing in the pharmaceutical sector is critical to improving health and reducing import dependence, especially as Africa emerges from the COVID-19 pandemic. Infant food production can contribute to sustainable food security and nutrition in the midst of global supply chain disruptions. The cotton-clothing sector offers many opportunities for Africa to move up the global value chain and develop markets within and beyond the African continent. In the same vein, automotive manufacturing can add value and contribute to skills development by leveraging advanced technology. All these open up possibilities for Africa to enhance investments in Research and Development (R&D) as a way of boosting innovation, upgrading industrialization as well as ensuring that the African industrialization process grows with a dynamism of its own, while factoring in the demands of the fourth industrial revolution and decarbonization.

The process of inclusivity is highlighted by the fact that the publication has analyses on women’s participation in regional and continental value chain development as well the efforts of small and medium firm to embrace the green and digital transition. In this way, considerations of inclusivity and sustainability inform strategies for continental integration.



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Acronyms

Unless otherwise specified, all references to dollars (\$) are to United States dollars, and all references to tons are to metric tons.

AfCFTA	African Continental Free Trade Area
AMA	African Medicines Agency
APIs	Active pharmaceutical ingredients
AUC	African Union Commission
ARSO	African Organisation for Standardisation
EAC	East African Community
ECOWAS	Economic Community of West African States
ESG	Environmental, social, governance (criteria)
EU	European Union
HS	Harmonized System
GOTS	Global Organic Textile Standard
ISO	International Organization for Standardization
ITC	International Trade Centre
LDCs	Least developed countries
MSMEs	Micro, small and medium-sized enterprises
NMRA	National Medicines Regulatory Agency
NTM	Non-tariff measure
OECD	Organisation for Economic Co-operation and Development
OEM	Original equipment manufacturer
PAPSS	Pan-African Payment and Settlement System
R&D	Research and development
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
VAT	Value-added tax

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Executive summary

Africa is full of potential, and the African Continental Free Trade Area (AfCFTA) is an important key to unlock it. Unleashing continental opportunities requires prioritizing issues, channelling interventions in the right direction and removing barriers in vital sectors.

Africa's footprint in the international market is still small. Africa accounts for just 2.3% of global exports – with an export basket heavy on primary commodities and natural resources. While only 14% of the continent's exports are destined for other African countries, much of this trade is in semi-processed and processed goods. Strengthening regional trade is therefore crucial to support greater value addition, diversify supply chains, boost resilience to crises and to industrialize – ultimately contributing to job creation and better livelihoods on the continent.

The International Trade Centre (ITC) examined value chains to identify high-potential sectors for sustainable development in Africa and the bottlenecks for firms. The value chain diagnostic supports the continent by suggesting how governments and businesses can best develop sustainable value chains.

The diagnostic contributes to Africa's regional integration agenda and pivotal elements of the continental trade agreement. ITC's approach – combining robust, data-driven analysis and thousands of business voices from across the continent – can help African economies develop value chains, promote sustainable economic transformation and reduce dependency on primary product exports.

Promising value chains

From 415 possibilities, the data analysis identified 94 promising, feasible value chains at the continental level. It then drilled down further, based on trade patterns, supply, demand, market access and sustainable development indicators. The diagnostic eventually settled on four pilot strategic sectors: cars, pharmaceuticals, cotton clothing and baby food.

Each of these value chains links at least five African countries from different regions and has the potential to add value, reduce imports, lift trade, diversify economies and open opportunities for women and youth.



Pharmaceuticals value chain: With only 3% of imported inputs being sourced from Africa, a large trade deficit, high and increasing import dependency, and a COVID-19-induced call for greater self-reliance, there is a massive policy push to strengthen Africa's pharmaceuticals sector. Global pharmaceutical companies are eyeing Africa, and initiatives to set up production facilities are underway.



Automotive value chain: This value chain has high potential for intraregional trade. A large and growing continental market, potential to connect with value chains such as leather and electrical machinery, and growing collaboration with foreign multinationals mean the sector presents a wealth of investment incentives.



Cotton apparel value chain: Africa accounts for 10% of the world trade in cotton and has a huge scope to add value in the middle steps of the value chain, such as for yarn and fabrics, make it a sector worthy of investment.



Infant foods value chain: African reliance on imports despite an abundance of locally available food sources makes this a strong choice for regional sourcing and production. It is also a good sector for small business and for job creation for women.

How African businesses feel

Businesses are cautiously optimistic but eager for a paradigm shift.

- In the four pilot value chains, only 7% of total sales, on average, stem from intraregional exports.
- Cross-border business operations are low, at 28%. Firms are dissatisfied with the pace of implementation of trade agreements. Awareness of the continental trade agreement is modest.
- Fewer than 10% of the interviewed companies participated in public-private consultations on trade agreements before the adoption of the AfCFTA.

Yet the African business community widely supports efforts to develop sustainable regional value chains.

Addressing common trade challenges

- ✓ **Lack of trust in product quality.** This reduces incentives for local sourcing. The continent requires a sound quality management framework. African input suppliers and output producers often do not know each other – due to a lack of trust, not a lack of opportunity. This prevents them from connecting and forging business ties. Rather, African producers source inputs from distant markets such as Europe and China.

Reinforcing quality standards, ensuring adherence through effective enforcement and capacity building, setting up a strong conformity-assessment infrastructure and harmonizing quality standards across countries are all indispensable to build trust in regionally manufactured goods. Increasing transparency of market access conditions and trade-related procedures will help businesses identify and tap into market opportunities in Africa.

- ✓ **Poor access to finance, high production costs.** These challenges discourage investments, limit economies of scale and make African goods uncompetitive. Transforming financial system frameworks can create new opportunities.

High loan costs are a major barrier to much-needed investments in research and development, new technologies and worker skills. They also make it difficult for firms to comply with quality standards and environmentally friendly production processes. Affordable, accessible finance, specifically for small and women-led firms, will boost investments in skills and technologies.

The high cost of utilities, notably electricity, also hinders investment by raising production costs. This results in uncompetitive pricing of locally made products and dependence on extra regional imports to meet local needs.

- ✓ **Weak connectivity.** Patchy transport routes and inefficient logistics networks block the movement of goods across borders. The absence of safe credit lines for cross-border transactions and a wide range of non-tariff regulatory barriers further limit regional trade.

Better connectivity warrants investments in a sound transport network, improved implementation of trade agreements, removal of avoidable trade restrictions and stronger border clearance processes. Investing in safe and reliable payment systems across countries and raising awareness on existing solutions will encourage businesses to explore more sourcing opportunities regionally.

- ✓ **Circular economy models need support.** Investments in appropriate technologies and processes are key to address environmental issues. African businesses widely acknowledge risks of a changing climate. While regional demand is low for eco-friendly products, the high carbon footprint of production processes, lack of proper systems and regulations to treat waste, and poor access to green technologies all require serious consideration.

Sustainability is an inescapable facet of Africa's regional integration. Enabling the 'green' transition for sustainable value chains requires investment in building technologies and skills, effective design and enforcement of environmental standards, and regulations and investments in reliable waste management and recycling systems.

Building capacity of eco-friendly production technologies, technology transfers, tax incentives and targeted financial support for micro, small and medium-sized enterprises – and especially women-led businesses – will accelerate the transition towards eco-friendlier operations. Closer industry-academia ties will help drive innovative solutions.

Challenges in pilot value chains



Pharmaceuticals. Limited technical know-how and weak processing capabilities stifle pharmaceuticals production in Africa. Low-cost producers in Asia and the counterfeit medicine market also weaken the competitive position of African manufacturers. Further obstacles include the absence of a continent-wide regulatory framework and limited knowledge of existing opportunities in Africa.

Regional quality infrastructure and a product registration system to enable medicine sales through a central agency will verify and improve product quality. Access to finance, knowledge transfer, investment in sophisticated production processes, adoption of international intellectual property models and better regulatory oversight for counterfeit drugs will drive growth in the sector. Using more traditional medicines and medicinal plants unique to the continent should be examined.



Automotive. The lack of a continent-wide strategy has kept the African automotive sector highly fragmented. The influx of cheap, imported second-hand cars and a weak regulatory environment to control the sector have kept investments low. Poor processing capabilities due to limited technical know-how and lack of access to modern technologies have made it challenging to attain economies of scale.

A continent-wide strategy is a prerequisite to develop the sector. Standards are now being harmonized across countries, but this must be accelerated. Investments in research and development and skills will boost local manufacturing.



Cotton apparel. Africa is the top cotton producer in the world. Yet lack of technical know-how, modern production machinery and qualified personnel have left the continent dependent on imports of cheap yarn, fabric and second-hand clothes. Networks of input producers and output suppliers in Africa are limited, largely due to insufficient market information and weak marketing capabilities of businesses.

Unclear and differing rules of origin, waste management, treatment and recycling systems and sustainability standards are challenges. Investment in machinery and knowledge transfer are needed to enhance skills and know-how. Capacity building on sustainability and access to affordable finance are essential for the sector's growth and its green transition.



Infant foods. Limited production capacity and low consumer trust in local brands hinder this sector's growth. Quality is a key consideration in the production and packaging of baby foods, but lack of modern production machinery and a weak quality infrastructure have curtailed growth.

Regional and national strategies to support the baby food sector must plot out a path for growth that leads to better market information and harmonization/mutual recognition of standards and conformity assessment certifications at a continental level. Business support organizations have a key role to play to help the sector grow.

Next steps for African value chains

A holistic action plan is needed to underpin the development of innovative and sustainable value chains at continental scale in Africa. An ecosystem for further integration should:

- ✓ **Define a continental strategy** for promising value chains and translate it into regional and national contexts.
- ✓ **Create an enabling environment** for value chain integration by addressing common challenges.
- ✓ **Provide evidence on sector-specific challenges and recommendations** for additional value chains among the 94 promising and feasible value chains identified for Africa.



CHAPTER 1

VALUE CHAIN PRIORITIES

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Opportunities: 94 value chains in 23 sectors3
Pilot value chains: 4 out of 946

CHAPTER 1

VALUE CHAIN PRIORITIES

Growth through intraregional trade is a critical steppingstone towards the African Union's 2063 vision of 'The Africa We Want'. This chapter examines the priorities for African value chain development.

AfCFTA: African growth and integration

The African Continental Free Trade Area (AfCFTA) serves as a framework to boost intra-African trade and develop intraregional value chains. The start of trading under the AfCFTA as of 1 January 2021 sets a key milestone for a single market with a combined gross domestic product close to €2.5 trillion. Liberalizing tariffs alone is estimated to increase intraregional trade potential by more than €17 billion. Removing other market frictions and channelling investment into growth sectors could help realize €19 billion in intraregional trade potential that currently remains untapped.

Building a single market with a clear, strong regulatory framework across 54 signatory countries presents an opportunity to develop new regional value chains and increase value-added trade and employment. It will open doors to a consumer base of 1.3 billion people, projected to reach 2.5 billion by 2050, and creates strong incentives for investment.

Africa represents 15% of the global population, but only 2.3% of world exports. Commodities and natural resources continue to dominate exports to the world. Meanwhile, 14% of its exports are destined for African markets, including a relatively high share of semi-processed or processed products. Exports in the region are more diversified and technologically advanced than exports overseas.

Intra-African value chain integration reduces dependency on unprocessed goods and natural resources as exports. Integration thus paves the way towards higher value addition and a more diversified export basket. Competitive African value chains increase resilience to supply chain shocks, made even more evident by recent crises.

Prioritize investment and efforts

Governments and development partners seek to help the private sector tap into the potential of African value chains by channelling interventions to where they are most needed and addressing bottlenecks in key sectors.

The African Union Commission and the European Commission Directorate-General for International Partnerships mandated the International Trade Centre (ITC) to identify sectors with high potential for sustainable value chain development in Africa, as well as bottlenecks for businesses.

ITC developed an innovative approach for an African value chain diagnostic, combining trade information, input-output analysis, production, market access and other indicators to identify feasible and promising value chains. It then used feedback from more than 10,000 firms, sector experts and other stakeholders for direct feedback about business needs and institutional constraints, as well as investment needs.

ITC consulted with and built upon the expertise in international organizations, in particular in the African Union, the United Nations Economic Commission for Africa (UNECA), the United Nations Industrial Development Organization, the Organisation for Economic Co-operation and Development (OECD) and other national, regional and international organizations.

Opportunities: 94 value chains in 23 sectors

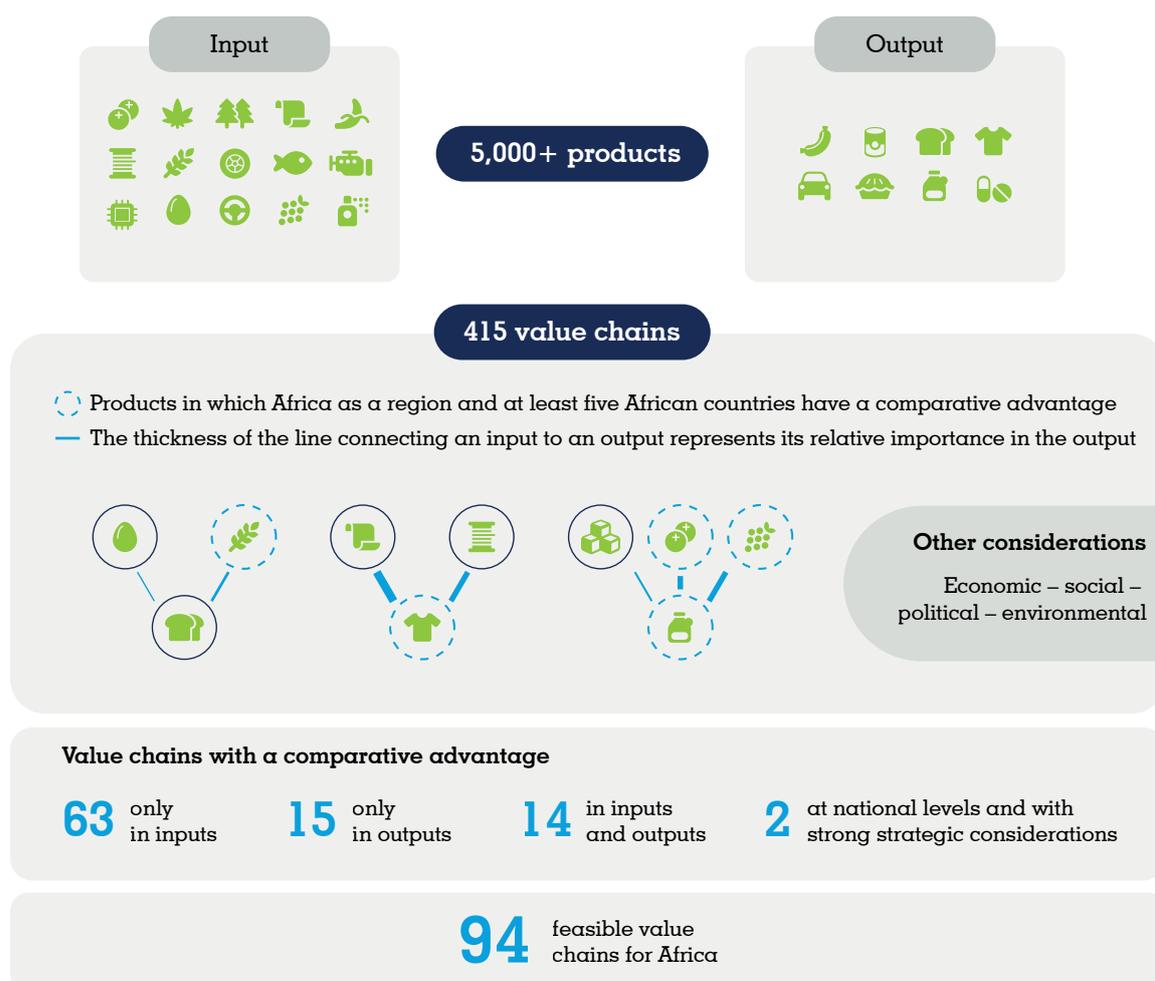
The ITC value chain diagnostic classified more than 5,300 products, at the 6-digit level of the Harmonized System (HS), into inputs and outputs. (Products are considered outputs if they are processed and non-intermediate goods, and inputs in all other cases.)

Next, sector-level input–output tables identified the relative importance of each input used¹. This helped define 415 value chains across all sectors, which were then evaluated based on their revealed comparative advantage.

In a third step, value chains were assessed for their potential to engage at least five African countries from at least two different regional economic communities. They also must have revealed comparative advantage in the major inputs, outputs or both inputs and outputs. Value chains with no revealed comparative advantage, or a revealed comparative advantage in minor inputs only, were excluded from the analysis.²

This process narrowed the pool of feasible value chains to just over 90. Consultations with sector and regional experts and with European Union (EU) and African Union Commission (AUC) stakeholders highlighted additional value chains, that are important for political and strategic reasons, for example, to reduce the import dependency in the pharmaceutical and agricultural sectors.³

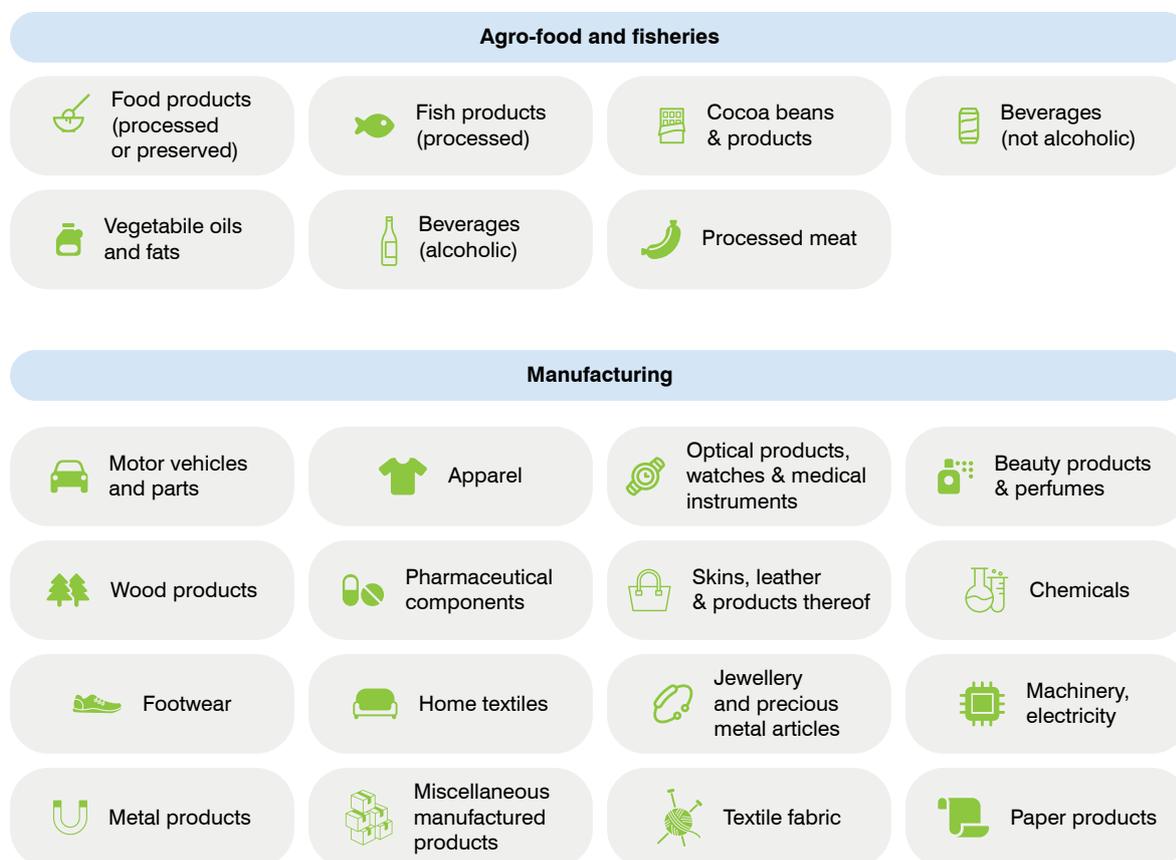
Figure 1 Honing in on promising value chains



Source: ITC

The resulting 94 value chains fall into 23 sectors. Most identified value chains were in the processed food (28) and machinery and electricity (11) sectors. Other sectors included apparel, home textiles and textile fabrics, metal products and beverages.

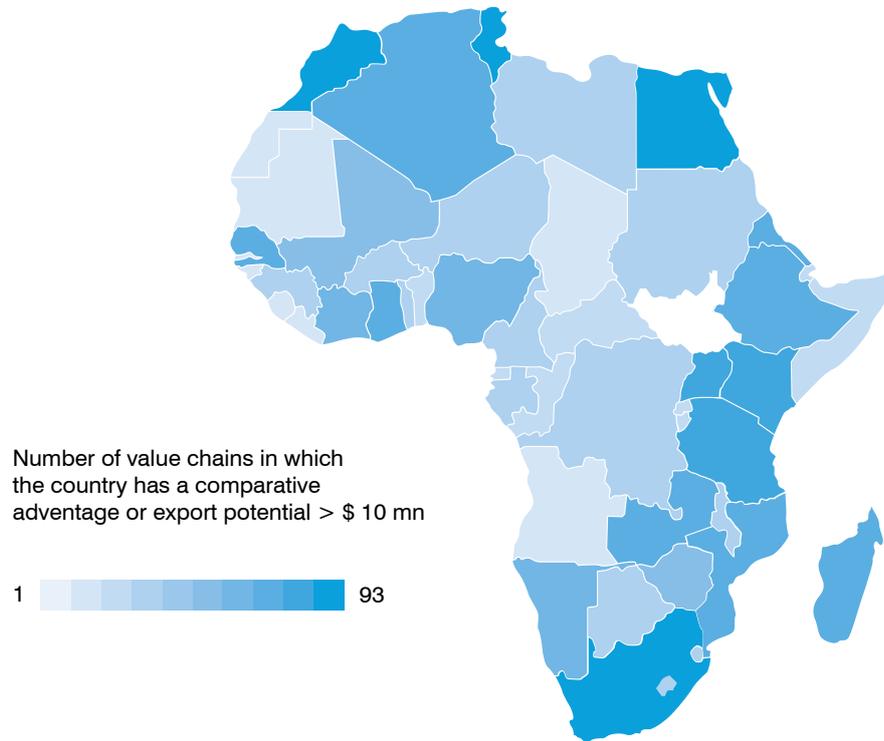
Figure 2 Sectors with most promising value chains



Source: ITC

Up to 33 African countries can connect to these value chains by providing inputs, manufacturing the output or both. While the relocation of intermediate steps disrupts the value chain and leads to dependencies in some of these sectors (e.g. textiles and automotive), in others, only the final output is produced elsewhere.

African imports of the final output of these 94 value chains from outside the continent exceeds €53 billion a year. Import demand across these value chains is expected to grow by 79% as of 2026 – more than the average demand growth of 68% expected across all sectors. By connecting immediate inputs from several African countries that are exported for further processing in other world regions, one-third of African demand in these value chains could be met locally.

Figure 3 Promising value chains span across the continent

Source: Based on ITC's Export Potential Map (<https://exportpotential.intracen.org>)

In 73 of the 94 value chains, Africa would have enough immediate inputs to cater to regional and international consumers, thereby adding value and creating jobs on the continent. These value chains present numerous investment opportunities to maximize their potential by further connecting African input and output providers.

Pilot value chains: 4 out of 94

The 94 value chains were further assessed for economic, political, social and environmental aspects, as well as national, regional and continental impact. The quantitative and qualitative assessment was backed by a literature review⁴ and extra consultations with stakeholders and sector experts. In discussion with AUC representatives, additional indicators of strategic importance for African economic development, such as food security and resilience to shocks, were defined. The set of indicators included:

■ **Current trade patterns**

- ✓ Exports to the world and share in world trade at continental and national level
- ✓ Share of products in African exports
- ✓ Existing trade along the value chain in Africa: number of trade relations from African input providers to African output providers, share of inputs sourced from Africa by African output providers, share of inputs exported to Africa by African input providers
- ✓ African export potential within the region and to the world

■ **Supply**

- ✓ Production of input and output products
- ✓ Geographic coverage: number of subregions, countries and least developed countries (LDCs) in Africa that are potential contributors to a value chain (have a comparative advantage or an export potential of at least \$10 million in the output or input(s))

■ **Demand**

- ✓ Demand in Africa and the EU: relative projected import demand for the output product
- ✓ Size of the value chain: world export potential in the output product, up to the year 2026
- ✓ Import demand: Current and projected (by 2026)
- ✓ Import dependency: the extent to which imports meet Africa's demand for a product

■ **Market access**

- ✓ Tariffs on inputs: simple average of tariffs on main inputs from input providers to output providers, existence of tariff advantage for African input providers
- ✓ Ease of trade: a revealed measure of ease of trade between potential input and output providers that captures the strength of the existing bilateral trade relationship
- ✓ Impact of AfCFTA: change in ease of trade between African input and output providers expected through AfCFTA-induced tariff reductions

■ **Sustainable development indicators**

- ✓ Presence of small and medium-sized firms
- ✓ Female labour force participation
- ✓ Green technology

Box 1 Promising value chains in ECOWAS and EAC

The ITC value chain diagnostic can be adapted to identify promising value chains at the subcontinental level. A preliminary scan has revealed that Economic Community of West African States (ECOWAS) and East African Community (EAC) countries could connect to at least 20 of the 94 continental-level value chains across 10 sectors. In fact, several value chains present opportunities for the regions even when they are not particularly promising for Africa as a whole.

In ECOWAS, many countries could competitively provide inputs into processed food or fish value chains, including for the preparation of baby food. For other processed food items, such as cocoa products or couscous and pasta, the region already successfully exports the final product. Other promising continental value chains to which the ECOWAS region could contribute include automotive supplies (thanks to the abundance of certain metals) and apparel (thanks to the abundance of cotton). At the regional level, musical instruments, household articles and paper products may be considered.

Processed food and fish value chains also look promising in the EAC. Furthermore, EAC countries are traditionally competitive in the production of hides and skins, allowing them to connect to several leather-based value chains that could feed into garment or automotive supply production at the continental level. Regional-level value chains linked to ceramics, paper or alcoholic solutions could also be developed.

Source: ITC.

Annex III has an overview table with the 94 value chains and selected indicators. Some are relevant for all value chains, others only for value chains in certain sectors. Depending on the policy objective, stakeholders may weigh the importance of the factors differently. For example, while reducing import dependency is crucial for essential food or healthcare items, it is less relevant in the automotive value chain where the international division of labour generates indispensable terms of trade gains.

Annex IV maps all African countries to these value chains, detailing the outputs and inputs each country could provide based on revealed comparative advantage and export potential.

The additional assessment informed discussions with a wide range of stakeholders of the EU and the AUC. The consultative process resulted in selecting the first four pilot chains: pharmaceuticals, automotive, food preparations for infants and cotton clothing. These sectors then received data analysis and dedicated discussions with businesses across the continent.



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CHAPTER 2

CAPTURING THE BUSINESS VOICE

Unlocking value chain and integration potential requires understanding the business perspective in operating and trying to connect to each other. The ITC value chain diagnostic draws on two survey initiatives to provide the necessary reality check on the ground:

- ✓ Large-scale national business surveys on non-tariff measures (NTMs).
- ✓ A dedicated survey and consultation initiative designed for the four pilot value chains.

Overall, the documented views and experiences of almost 11,000 businesses and other stakeholders contributed to this diagnostic.

NTM Business Surveys to understand trade challenges

ITC's large-scale business surveys on non-tariff measures – conducted since 2011 in 22 African countries and covering close to 10,000 exporters and importers to date – document experiences of trading firms with regulatory and procedural trade obstacles at the product (HS6) and partner country level, including but not limited to intraregional trade. In each surveyed country, findings are based on a representative sample of companies drawn from the population of exporting businesses in 13 pre-defined sectors, covering all goods except minerals and arms.⁵

These surveys provide comprehensive and unique evidence on barriers to intra-African trade that feeds into the diagnostic of the four priority value chains presented in this report. Detailed information about the characteristics of surveyed businesses in each country, as well as country-specific findings on trade obstacles related to non-tariff measures, can be found on the dedicated country pages and reports available at www.ntmsurvey.org.

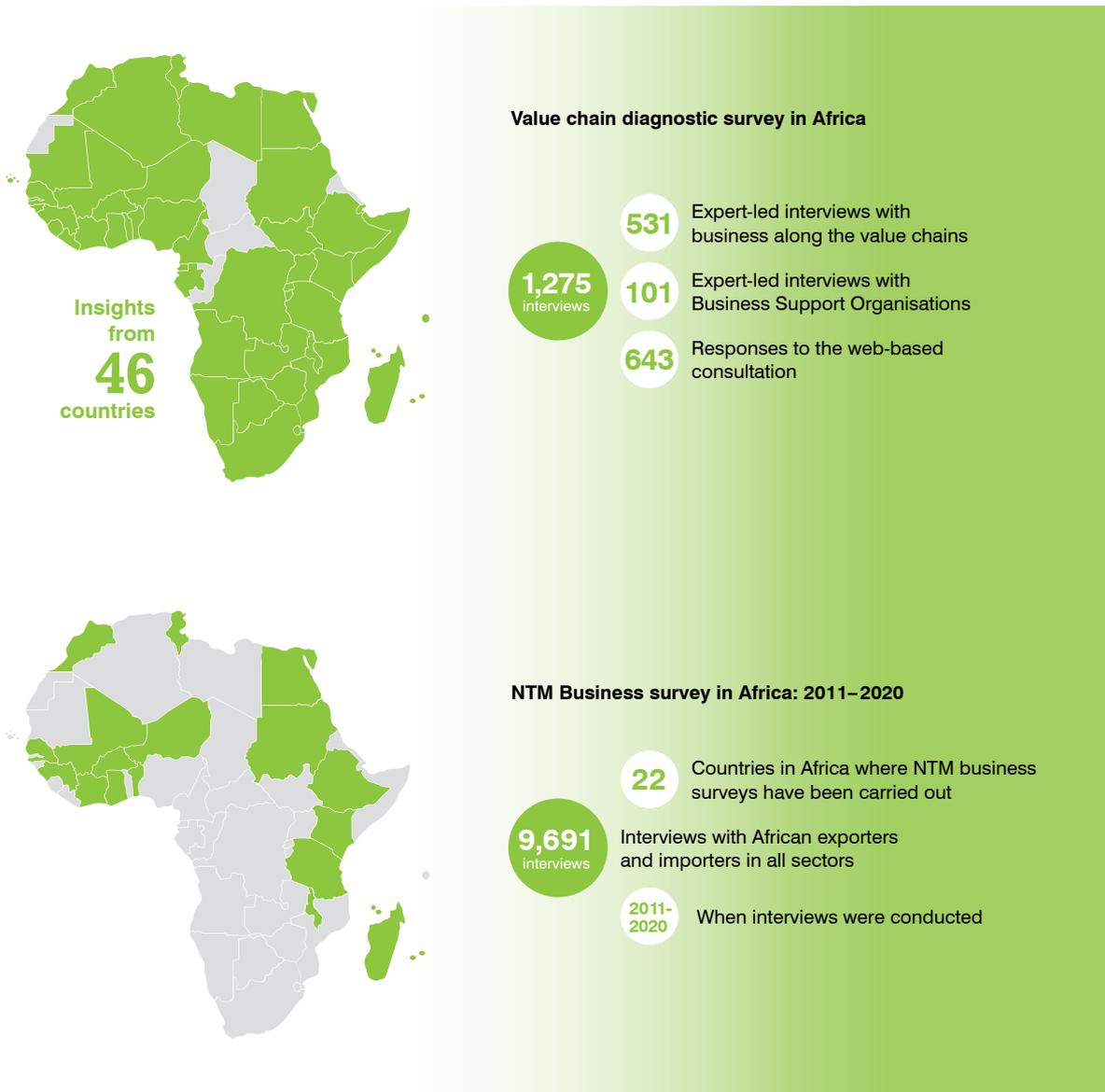
Consultations with economic actors from four pilot value chains

To learn about value chain development challenges beyond trade obstacles, ITC, supported by more than 25 sector experts across the continent, interviewed participants along the four selected pilot value chains.

The interviews, carried out from December 2021 to February 2022, covered a broad set of elements. These included detailed company characteristics and production details (inputs, outputs, sourcing origin and sales markets), production capacity and constraints, sourcing constraints, access to finance, investment needs, access to technology, environmental concerns, interest in and ease of doing business with other African countries, expectations in relation to AfCFTA and key factors to enable change.

Consultations with 101 business support organizations (BSOs), including chambers of commerce and sector associations, gave context to and complemented the responses of individual businesses and provided more information on existing projects, strategies and lessons learned in the sectors.

Figure 4 Consultations with African businesses and stakeholders



Source: ITC



Figure 5 Participants in the web-based consultations

Source: ITC

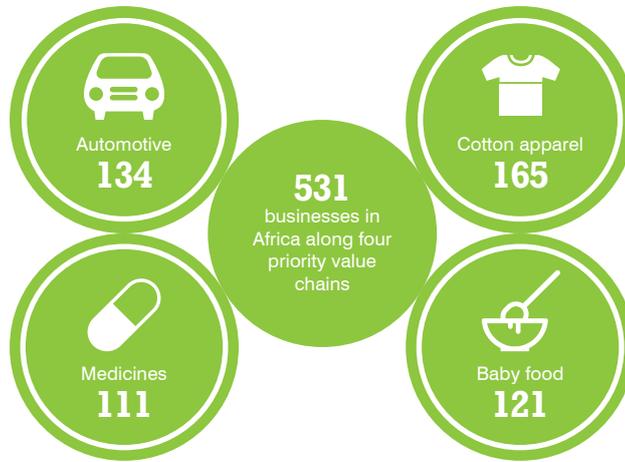
Profiles of businesses consulted

The 531 businesses surveyed from December 2021 to February 2022 comprised 165 in apparel, 134 in the automotive sector, 121 in baby food and 111 in pharmaceuticals/medicines. These include both exporters and non-exporters.

The NTM Business Surveys were designed to document trade barriers, so they focus exclusively on trading firms. Overall, 63% of the survey respondents were engaged in exports, 66% in imports and 29% in both exporting and importing. They were implemented over a longer period of time and cover all export sectors. The sample of companies to be interviewed was selected independently for each country and sector, based on the stratified random sampling method.

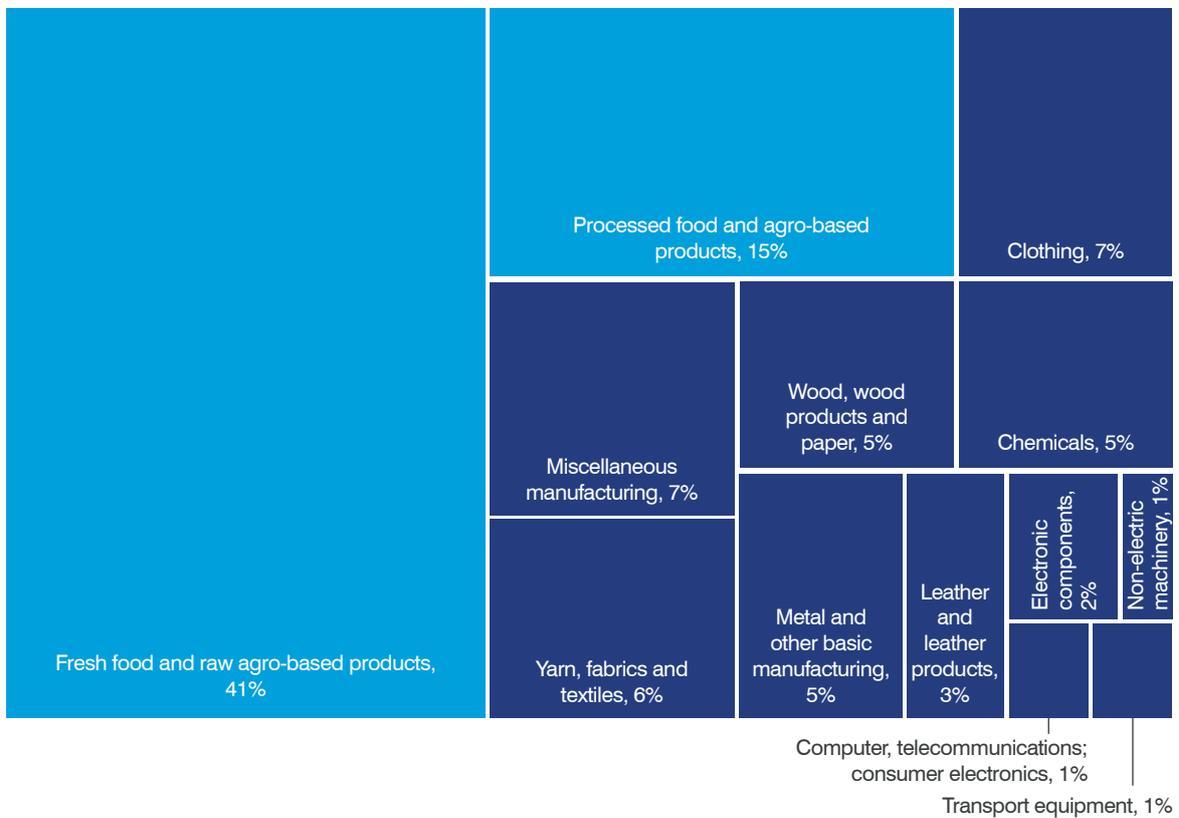
More than half of the 9,700 firms interviewed are active in the agricultural sector – comprising fresh food and raw agro-based products (41%) and processed foods and agro-based products (15%). Companies from the clothing and textile sector account for 13% of the interviewed companies, 7% from miscellaneous manufacturing and 5% from chemical sector, which also include pharmaceuticals.

Figure 6 Expert-led interviews along the pilot value chains



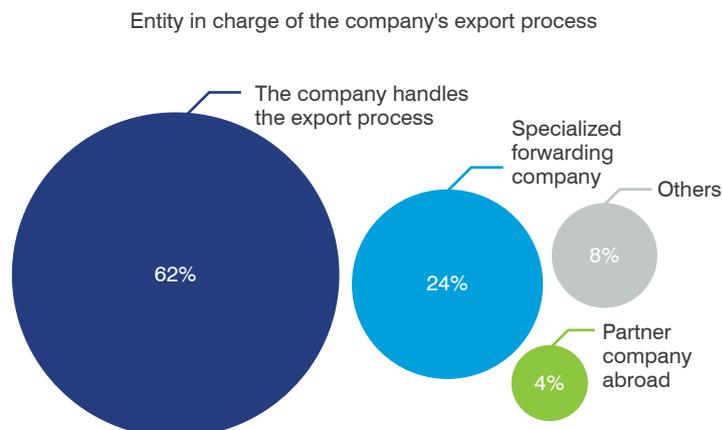
Note: Based on survey of four value chains in Africa.
Source: ITC

Figure 7 Participants of NTM Business Surveys in Africa



Note: Based on NTM Business Surveys in Africa.
Source: ITC

Figure 8 Most African trading firms handle export processes themselves



Note: Based on NTM Business Surveys in Africa.

Source: ITC

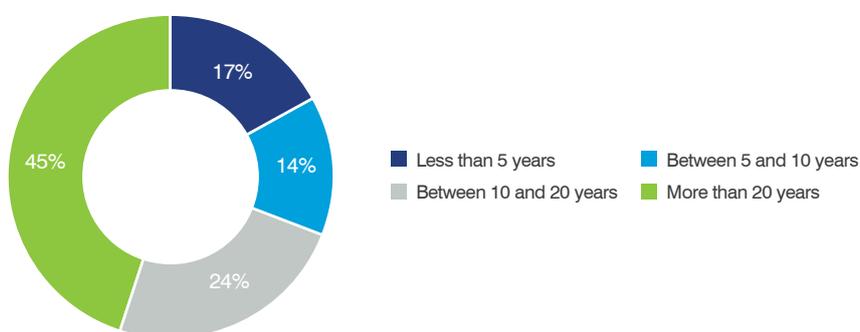
Most interviewed businesses (62%) handle the export processes themselves, while about a quarter procure services of specialized forwarding companies.

Years in operation

Interviewed firms are fairly well established. In the value chain diagnostics, almost half have been operational for more than 20 years. About 30% started up in the past decade and the remaining quarter are 10–20 years old.

There are major differences across sectors, however. The automotive and baby food sectors appear to have an important share of newly established companies, with 20% of interviewed companies in the automotive sector and 35% in baby food founded in the last five years.

Figure 9 Firms in the four value chains are well established



Note: Based on survey of four value chains in Africa.

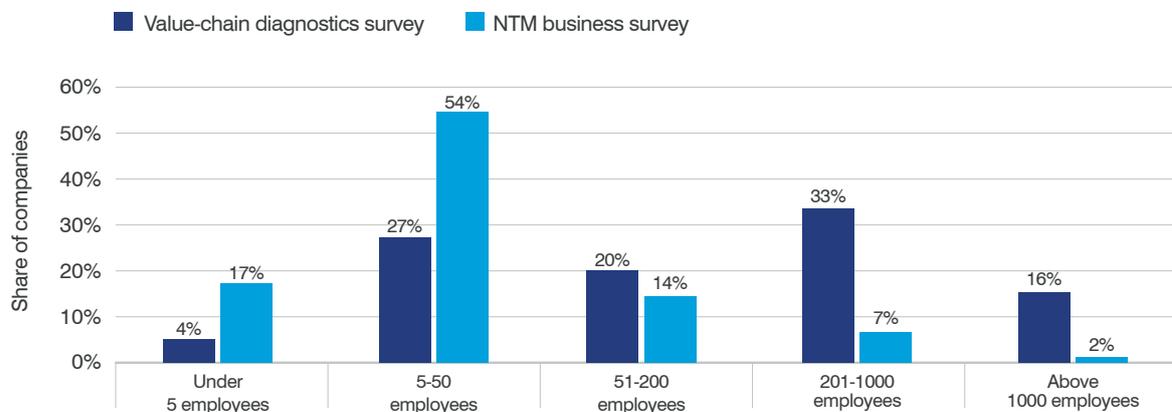
Source: ITC

Employment

The value chain diagnostics survey covers a mix of companies of all sizes: from micro, small and medium-sized enterprises (MSMEs) to large multinationals. The median company employs 100–200 employees in its country of operation. Firms with fewer than 50 employees constitute 30% of the respondents while 13% have fewer than 10 employees. At the other end of the spectrum, 16% of interviewed businesses have more than 1,000 employees. Automotive companies in particular are large employers, with 53% of the interviewed car businesses having more than 250 employees.

The employment pattern in firms covered by the NTM survey differs from the value chain diagnostic survey. This is due to differences in the sector coverage between the two surveys as well as the sampling approach. Only 2% of the participants of the NTM survey are very large employers with more than 1,000 workers. Most firms (71%) employ less than 50 employees, among which 17% employ less than 5 workers.

Figure 10 Most business survey participants are small and medium-sized firms



Note: For 6% of the firms in the NTM business surveys, the number of employees is unspecified.

Source: ITC

Location

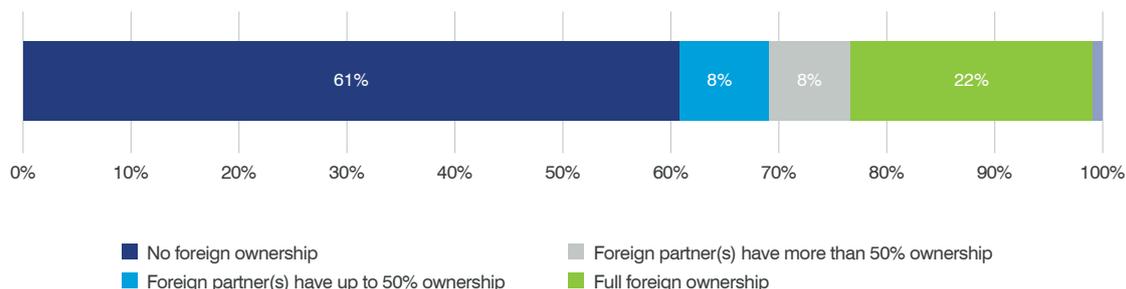
A large number of businesses surveyed in the value chain diagnostic are located in special zones that can offer specific benefits – for instance, nearly 48% in industrial or economic zones and 11% in export processing zones.

In particular, many apparel and automotive companies are based in export processing zones (about 18% each), indicating the export orientation of these sectors. On the other hand, very few baby food companies are located in such zones.

Foreign ownership

Locals wholly own most of the companies interviewed in the four pilot value chains (61%). This is especially the case for apparel and processed food companies, where the share of firms with no foreign ownership is 68% and 73%, respectively. Few businesses are (16%) both domestic- and foreign-owned. More than a fifth (22%) of the firms are wholly foreign owned, with important differences across value chains: in the automotive sector, for example, 39% of the interviewed companies are fully foreign owned.

Figure 11 Locals own most surveyed firms in the pilot value chains



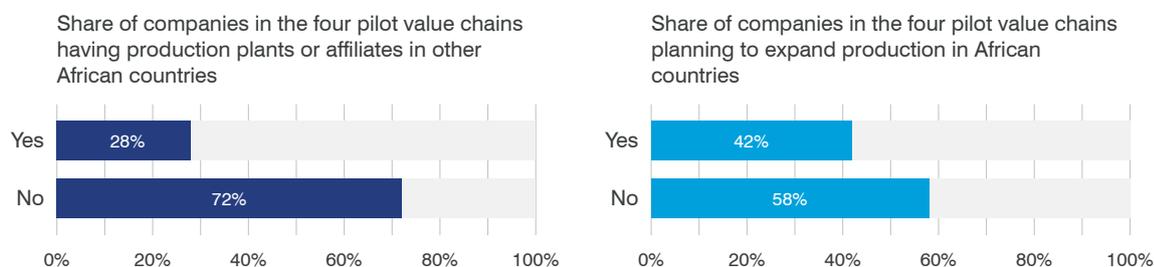
Note: Based on survey of four value chains in Africa.

Source: ITC

Doing business in Africa

Few companies have production plants or affiliates in other African countries (28%). The automotive sector has the most firms with plants or affiliates in other African countries (46%), followed by pharmaceuticals (36%). In the apparel and baby food sectors, this share is 15% and 17%, respectively. These companies are largely those with partial foreign ownership. Very few companies that are fully locally owned have plants or affiliates in other countries. However, 42% plan to expand in Africa.

Figure 12 Few African firms are present outside their home country



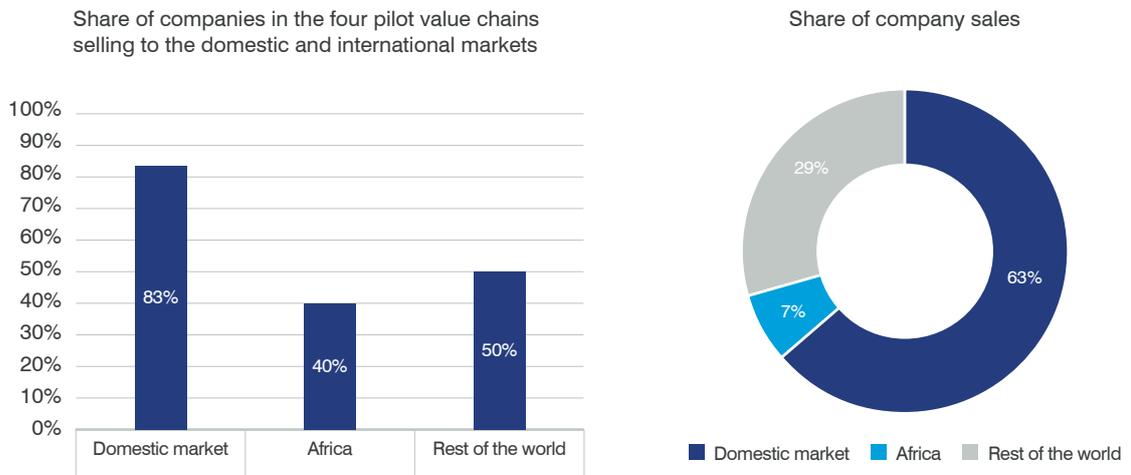
Note: Based on survey of four value chains in Africa.

Source: ITC

The interviewed companies along the four pilot value chains generate only 7% of their sales from intra-African trade. Most target the domestic market, with 83% selling their goods locally, 40% to other African countries and 50% to non-African countries. Roughly one in three companies caters exclusively to the local market, with no export activity at all.

On average, firms make 63% of their sales domestically. A company generates more from its exports to non-African countries (29% of the sales) than exports within Africa (7%).

Figure 13 Companies make most sales and revenue locally



Note: Based on survey of four value chains in Africa.

Source: ITC



CHAPTER 3

CROSS-SECTORAL BUSINESS CHALLENGES

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CHAPTER 3

CROSS-SECTORAL BUSINESS CHALLENGES

This chapter examines the main obstacles to developing the value chain and expanding African integration according to businesses in the four pilot value chains. Each section offers recommendations based on the insights of companies, BSOs and industry experts, and highlights some current or planned initiatives to tackle these obstacles.

These recommendations are merely a starting point, meant to facilitate policy discussions and inform strategy and project design at the continental, subregional and national levels.

To become actionable, they would need to be developed further and, in a consultative process involving both the public and private sectors, translated into a concise implementation roadmap for each value chain. That roadmap would need to include a detailed list of actions, assigning priorities, timelines, responsible actor(s) at the continental, subregional or national levels, and cost estimates for each of them.

Why don't suppliers and producers connect?

Businesses identify many reasons for the lack of intra-African trade - making it difficult for Africans to trade with each other and block companies from tapping into development of value chains. Why?

1. **Suppliers and producers often don't know each other** – as evidence from the ground suggests.

Even when they do know each other, they often do not connect for the reasons below.

2. **Lack of trust in the quality of African goods** largely due to lacking trust in conformity assessment systems.
3. **Poor payment systems** and lack of safe credit lines for cross-border trade transactions.

'I don't know any African company which supplies the inputs that we would need.'

'No reliability in terms of commitment, communication and respect of deadlines. Unclear procedures. Complex regulations.'

'Currently there is no sourcing of inputs from African countries. However, there will be consideration if the price, quality and volume of inputs are competitive.'

'Actually, we have never tried it. And we don't have any information that such raw materials are available in any African country.'

'We haven't dared importing from Africa yet because everybody imports from China and Turkey – it's the reputation that makes us choose these countries. We have no idea about the quality or availability of inputs from Africa.'

- Businesses across value chains explain why they are not sourcing (more) inputs from Africa

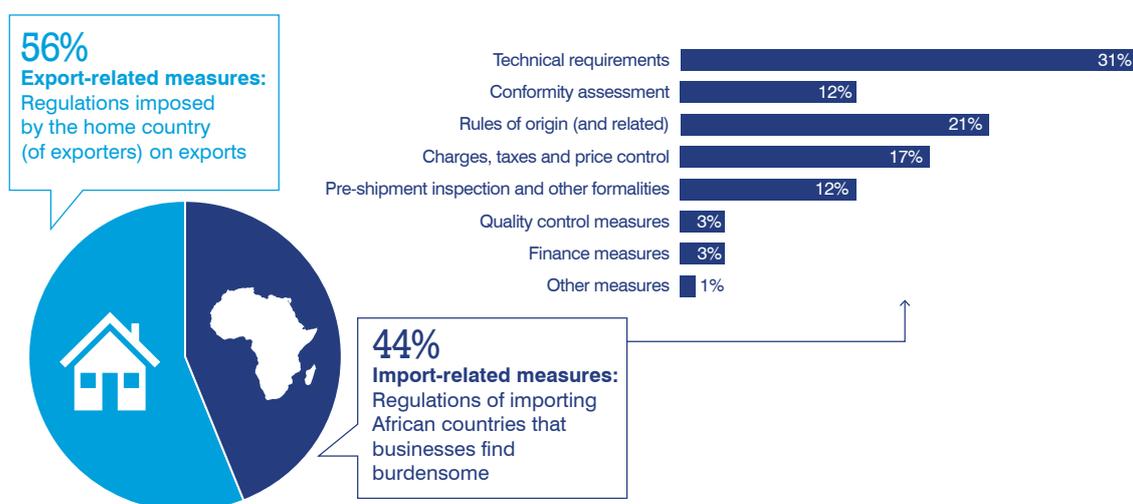
4. Many trade obstacles stemming from non-tariff measures.

These include not only measures imposed by importing countries, such as sanitary and phytosanitary measures and technical barriers to trade, origin requirements and related certifications or customs inspections, but also a disproportionately high number of trade obstacles linked to measures imposed by exporters' own countries, such as licences, inspections or taxes. NTM-related trade obstacles affect 63% of exporters in Africa, compared with 56% on average for developing countries.

'My home country's rules create bigger problems than exporting countries.'

- Automotive company

Figure 14 Export-related measures, technical regulations and rules of origin requirements hinder intra-Africa trade



Note: Technical requirements and Conformity assessment together form SPS and TBT requirements.

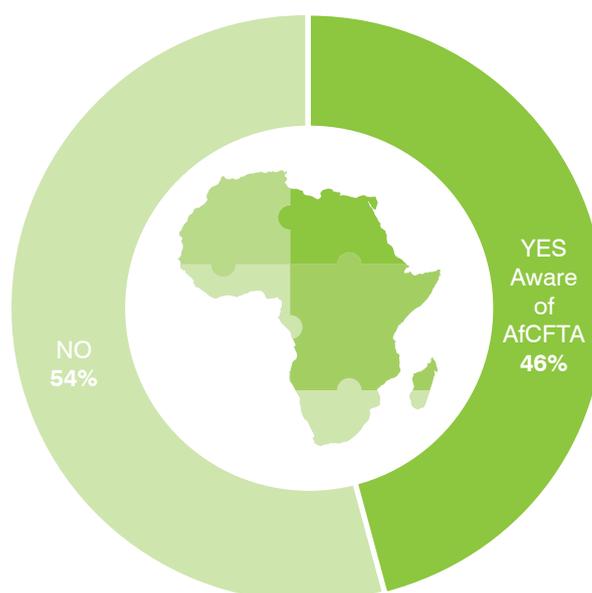
Source: ITC business surveys on non-tariff measures in Africa (9,691 interviews in 22 countries), www.ntmsurvey.org.

5. **Transport and logistics costs and inadequate transport routes.** Value chains that operate across borders require reliable and efficient logistics chains, with predictable time and cost. Missing connectivity between many African countries and poor road infrastructure are serious challenges for any effort to increase intra-African trade and continental value chain development.

6. **Uncompetitive prices** linked to the abovementioned factors as well as:

- **High loan costs** prevent companies from investing in research and development (R&D), modern production technology and environmentally friendly production processes, and complying with quality standards. Access to finance is especially challenging for women-led firms (see Chapter 8).
- **Low production volumes** that lack economies of scale.
- **High utility costs** and unreliable power supply in many countries.

7. **Insufficient implementation of trade agreements**, due partly to high turnover of personnel and inadequate training of border officials, MSMEs' lack of knowledge about trade agreements and their implications in terms of possible preferential treatment, mutual recognition of certification or other concrete advantages or of how to practically benefit from these. Businesses mentioned bad governance and poor enforcement of legislation.

Figure 15 Half of value chain participants are unaware of AfCFTA

Note: Based on survey of four value chains in Africa.

Source: ITC

- Inefficient border clearance processes.** Processes are often paper-based and unpredictably long, even when all required documentation is presented. Firms also reported damaged goods due to unnecessary or unprofessional handling of inspections and insufficient storage infrastructure (e.g. cooling facilities); high charges and fees related to clearance as well as storage of goods at the border awaiting clearance; and pressure to make informal payments, rendering the trade cost unpredictable.

In addition, businesses across sectors report challenges to building sustainable value chains.

- Inadequate waste management and recycling systems,** including for water waste from industrial production. Particularly in export processing zones, waste (including water waste) treatment is reportedly difficult and often organized by firms individually. Firms are also concerned about missing or lacking clarity of regulations on how to deal with waste, especially contaminated and hazardous waste, so it does not harm the environment or human health.
- Limited access to technologies, skills and financial support to green production.** Businesses report insufficient technologies and skills to minimize and recycle waste from production; limited funds to invest in alternative energy sources (e.g. solar panels) and other measures to reduce the carbon footprint of production; and lack of awareness of or access to innovative, eco-friendly packaging solutions.

What must change?

- To build trust in 'Made by Africa',** it will be essential to:

Invest in a continental quality framework and conformity assessment infrastructure that is reliable and accessible, including to MSMEs. Facilitate access to testing capacity across borders, particularly for businesses in LDCs and for very specialized testing and certifications that may not be cost-effective for each country to provide.

'We need a mind shift to start believing in our products.'

- Pharmaceutical company

In the short term, standards and certifications should be mutually recognized where feasible. In the long term, the goal should be regulatory convergence. Strengthen the African Organisation for Standardisation and support its efforts to establish African standards and reach its declared goal of 'one standard – one test – one certificate – accepted everywhere'.

'There is potential but there must be the will to do it'

- Agricultural producer

A strong conformity assessment infrastructure will be also key to enable quality transformation of raw materials (such as copper for automotive, inputs into the production of active pharmaceutical ingredients [APIs] for pharmaceuticals or cotton for apparel). It will also help prove compliance with increasingly strict environmental standards.

Ensure maximum transparency of relevant regulations and certification procedures. Facilitate comparison of standards and regulations across countries and against international standards, e.g. through self-assessment tools for businesses.

Build the capacity of companies to comply with high-quality standards and obtain the related certifications. The focus should be on MSMEs as well as women- and youth-led firms. Certifications against internationally recognized standards such as Good Manufacturing Practice and International Organization for Standardization standards should be privileged.

Ensure that certification can be obtained in a reasonable, predictable time-frame and for moderate cost, e.g. by establishing financial support schemes to cover part of the certification cost for smaller enterprises. Sensitize and train businesses on environmental, social and governance (ESG) criteria, due diligence frameworks and best practices, as well as waste management techniques. Incentivize and support compliance with such frameworks as these become increasingly mandatory.

Monitor and effectively enforce quality standards for both imported and domestically produced products. Sensitize consumers about the need for quality products for reasons of health, safety and the environment. Strong enforcement of standards will be a necessary first step to improve the reputation of, and the interest in, products made on the continent. In the longer term, aligning national quality requirements with international standards and best practices should be considered to facilitate the integration of businesses in regional and international value chains.

2. **Improve the transparency of market access conditions, trade-related procedures, business opportunities and trade agreement negotiation processes.** Run regular information campaigns to inform companies about trade agreements and negotiation processes. Create and raise awareness on trade-related information tools such as the African Trade Observatory. Improve the availability of 'how to export' guides for key products and markets.

'We need better access to market intelligence for African countries. And induction training and awareness sessions for the AfCFTA.'

- Pharmaceutical company

Build the capacity of businesses on how to identify market opportunities in Africa, the trade agreement(s) that govern intra-African trade and how to use the available information tools to take evidence-based decisions to exploit trade opportunities. Involve customs authorities as well as business associations in negotiation processes/trade policymaking. Reach out to key stakeholders to raise awareness on provisions being discussed and seek feedback on potential implications.

3. **Encourage and support the participation of businesses in national, regional and continental trade fairs.** Train small firms on essential skills, such as preparing for and following up on trade fair participation, effective negotiation and marketing skills, and developing international trade contracts. Set up financial support schemes so MSMEs can participate in trade fairs abroad.
4. **Invest more in trade corridors and better logistics infrastructure** to connect African countries and create reliable logistics chains that enable timely delivery of inputs for value chains operating across countries. Use the evidence on trade and value chain development potential to prioritize investments and selected trade corridors.

Box 2 Tools to cut the time and cost of product authorizations

Every year, 20%–40% of global crop production is lost to pests. Pesticide manufacturers are developing more effective products to control fast-growing and ever-evolving pests while respecting increasingly strict health and environment protection requirements.

However, the required data submissions and scientific reviews to authorize these products are specific to each pesticide, country and crop/pest, leading to theoretically more than 120 million authorizations if every pesticide product were authorized in each country. The number of authorizations is even higher for other products, such as pharmaceuticals, that require similarly complex processes.

This overwhelms even the best-equipped regulatory agencies as well as companies. Only the bigger firms usually having the resources to navigate the regulatory labyrinth for the most lucrative products and markets. SMEs that produce, for example, innovative biopesticides cannot apply to the myriad regulatory authorities across the globe.

As a result, many newer, safer and more effective pesticides are not assessed and are therefore unavailable, while the outdated products that spread over decades are still used – at times at the expense of human and animal health and the environment. Trade of agricultural products is hampered as growers struggle to comply with the increasingly strict regulations in producing and in importing countries, differing maximum residue levels and restrictions on the types of authorized pesticides.

Clearly, regulatory harmonization is urgently needed. The following tools can help – for pesticides as well as other products requiring scientific reviews and complex authorizations:

- Harmonize data requirements from regulators, so companies can seek approval in several countries with a single data package. The West African Committee for Pesticides Registration, for example, works towards that objective.
- Joint pesticides reviews allow two or more countries 'to jointly evaluate a pesticide dossier. The participating regulatory authorities review the work of the primary reviewers for each science discipline, and the result is used by all participating countries (and others) as the basis for regulatory decisions'. The OECD guidelines for the planning and implementation of joint reviews of pesticides serve as important reference.¹
- Mutual recognition of scientific reviews between countries would drastically reduce the workload connected to the various submissions. Once a pesticide data package is submitted by a company and validated by one country, it becomes available across the whole region.
- Specialized agencies such as the Minor Use Foundation, which aims to harmonize global residue tolerances by establishing and coordinating research priorities, help connect the needs of crop growers, pesticide manufacturers, regulatory agencies and other stakeholders.
- Training and capacity building in pesticide regulatory harmonization as well as mentoring services for farmers, processors and traders on the use of pesticides, give them helpful tools and guidelines.

Source: Imme Gerke and Jacques Drolet, International Development of Regulatory Globalisation (<https://www.idrg.eu/>).

¹ <https://www.oecd.org/chemicalsafety/pesticides-biocides/46754279.pdf>

5. **Effectively implement and monitor the implementation of existing trade agreements, including but not limited to AfCFTA**, especially regarding provisions on trade facilitation, non-tariff measures and related procedures as well as mutual recognition. Improve reporting mechanisms so firms can alert authorities on practical issues they encounter, domestically or in partner countries, to facilitate follow-up and targeted action. More specifically, underpin the continent-wide non-tariff barrier reporting mechanism with strong national systems that allow domestic trade obstacles, e.g. in relation to export-related measures or procedural obstacles in the exporting country, to be identified and addressed. The Trade Obstacles Alert network and the resolution mechanism in ECOWAS member states can serve as examples. Build the capacity of customs officials, including those in remote border stations, on trade agreements and their implication for border clearing processes.

6. **Critically review rules of origin** under existing and new agreements to assess the incentives they give vis-à-vis regional integration of value chains as well as sustainable and green production. Consider facilitated market access (e.g. exclusion from negative lists, relaxation of local/regional value content, facilitated access to authorized economic operator schemes) for products or inputs into production supplied by ESG-compliant companies.

Decentralize and, where possible, digitalize the origin certification process to increase its transparency and reduce time and cost involved. Improve the links among different authorities, e.g. through automatic forwarding of origin certification between the issuing and border agencies. Particularly for manufactured goods that rely on various inputs, build the capacity of businesses on the documentation requirements and paperwork related to proving origin.

7. **At the national level, review regulations on exports**, such as export licensing, permits, certifications, registration requirements and export taxes, as well as associated administrative processes, assessing their cost and benefits as well as potential alternatives that are less trade restrictive. Ensure that information on export-related measures and related procedures is easily available and that administrative processes are predictable in terms of time and cost.
8. **Improve access to affordable finance, especially for MSMEs**, including for investments in skills, technology and innovation. Introduce or expand guarantee schemes for short-term pre-shipment loans and sales order advances, working capital loans against specified and agreed measurable ESG product improvement indicators, and asset financing loans bridging order deposits for ESG equipment procurement until the asset is brought into productive use.

Ensure that both women and men can access such financial instruments, taking into consideration the potential gender differences at the design stage, e.g. related to asset ownership rights. Invest in safe and reliable payment systems across countries and raise awareness about existing solutions, such as the Pan-African Payment and Settlement System (PAPSS).

9. **Continue investing in the efficiency of border clearance processes**. Support the implementation of national single windows and improve inter-agency communication and collaboration, including across countries. Eliminate duplicate procedures for intracontinental trade. Improve or introduce risk management systems. Improve the infrastructure at border stations (e.g. storing and cooling facilities, scanners, etc.) and invest in automatization and digitalization, to also limit possibilities for rent-seeking and corruption.

Introduce or extend authorized economic operator schemes and make them accessible for smaller firms. Introduce or increase the use of advance rulings when possible. Improve the mechanisms through which businesses can challenge decisions and request further explanation and justification of decisions.

10. **Enhance the wider auxiliary infrastructure needed for greener production**, including recycling systems and infrastructure to treat water and dispose of hazardous waste. Introduce or clarify and enforce environmental regulations related to industrial production. Provide incentives, e.g. through tax advantages and access to affordable finance, to invest in technology and skills improvements and support technology transfer to reduce water and chemical use in the production of both agricultural and industrial goods.

Create dedicated financial instruments to support companies, particularly MSMEs, to obtain certification against sustainability standards. Invest in research and the development and production of eco-friendly packaging solutions.

11. **Increase academia–industry partnerships for research** (e.g. related to product innovation and production techniques) and its dissemination in specific sectors. Create dedicated research and innovation funds.

The 'missing middle': Intermediate goods

An in-depth look at African trade flows reveals two weaknesses in continental value chains: 'missing links' and low use of inputs from the continent. While Africa is rich in natural resources, many intermediary or final production steps occur elsewhere, limiting local value addition.

Many parts and components in value chains are imported

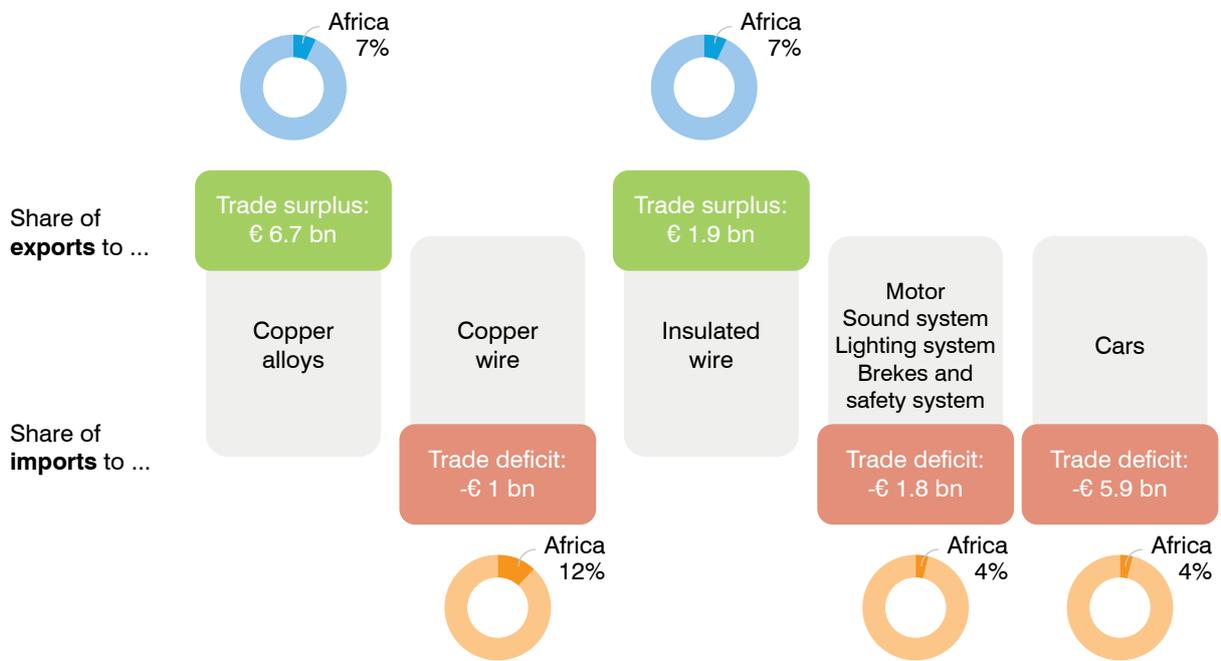
In some value chains, African countries are important producers of initial inputs but do not participate much in (all) intermediary steps required to produce the final product. Such missing links force African producers to import crucial intermediary inputs from other continents. This trend is evident in several value chains, such as automotive (copper wire) and cotton clothing (yarn and fabric).

Missing links occur in the automotive value chain around the production and use of automotive wires, for example. Africa has a trade surplus in copper alloys, the first step of the value chain. Net exports, mainly from the Democratic Republic of Congo, Congo and Zambia, amount to €6.7 billion. However, 93% of these copper alloys are exported to other continents, mostly

Asia and Europe. The second production step, transforming copper alloys into copper wire, occurs there.

Africa has a €1 billion trade deficit in copper wire, with 88% of it imported from other continents. For the third production step, African producers, mainly Morocco, Tunisia and Egypt, import copper wire from Asia and Europe and transform it into insulated wire. They export it, chiefly to Europe, with a trade surplus of €1.9 billion. Insulated wire is used in various car components, including electric motors, sound systems, lighting systems and brakes and safety systems. In these, as well as in cars, Africa has a trade deficit, with net imports of €1.8 billion and €5.9 billion, respectively.

The missing link in automotive wires



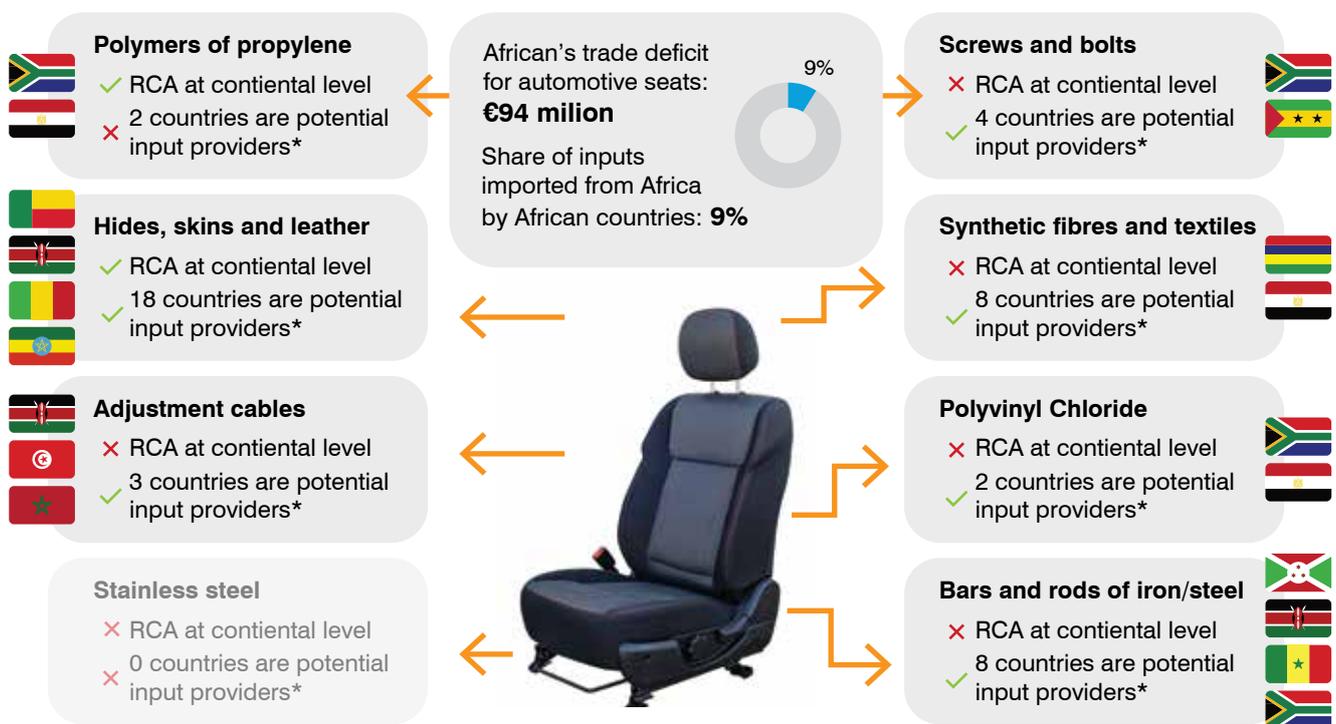
African producers of final and intermediate goods in different value chains source most imported inputs from other continents. Missing links occur in different value chains, such as infant food, cotton apparel and vehicles.

Limited sourcing within the continent

Although 39 African countries have significant export potential in many inputs – foodstuffs (fruits and vegetables, cereals, dairy products and more) as well as packaging items (jars, lids and cartons) – African producers source just 16% of inputs in this value chain from the continent. Transforming locally sourced inputs would not only add value in Africa, but it would also increase the production of infant food, reduce the continent's import dependency and respond to the steep increase in demand expected over the coming years.

This is also the case in the automotive value chain, notably the production of vehicle seats. African countries can provide almost all key inputs needed to produce seats – from leather, synthetic textiles, bolts and screws to propylene polymers and polyvinyl chloride – but African producers import only 9% of such inputs from other African countries. Using more African inputs would strengthen regional value chains, create jobs and boost Africa's export potential.

Africa has most key inputs to produce car seats



*Potential input providers: RCA or export potential > \$10m

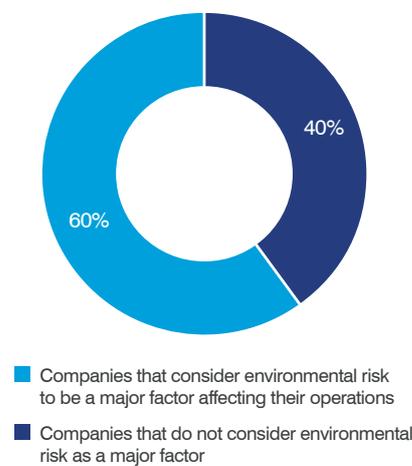
Going green: African value chains

More than 60% of businesses in the four pilot value chains cited climate change and environmental risks as major challenges. Rising temperatures, floods and droughts are among the most common environmental risks African business face. In fact, Africa is among the regions most affected by climate change,

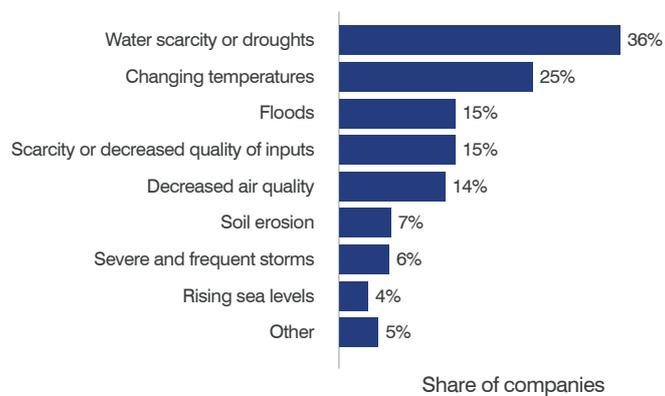
even though the continent contributes little to it.¹ Extreme temperatures and unexpected temperature changes are particularly problematic in cities.² These environmental impacts can slow efforts to develop value chains at the continental scale.

Environmental risks: Rising business concern

Businesses affected by environmental risk



Most common environmental risks among African businesses



Note: Based on survey of four value chains in Africa.
Source: ITC

Floods and rising temperatures are the top concern in the apparel sector. Unexpected changes in rain patterns and floods have lowered cotton quality. Furthermore, apparel production is water-intensive and declines in years with severe dry seasons.

Food processors – who depend on agricultural inputs and are greatly affected by environmental risks that impact agricultural production, such as soil erosion and droughts – voice similar concerns.

Maintaining humidity levels is a major challenge for firms in the pharmaceutical sector, as medicines are highly sensitive to changes in moisture and temperature. Water scarcity is another major concern for pharma companies as water supply interruptions during dry seasons disrupt the production process.

'Changes between the rainy and the dry season are increasingly getting starker. Between April and May, lack of water during the drought season affects production. On the other hand, the heavy rains during the rest of the year prevent the drying process of the indigo.'

- Apparel manufacturer

'As most of our inputs are coming from the agricultural sector, any environmental risk that affects farming will indirectly affect our company. These environmental risks are drought, shortage and irregularity of rain and rising temperature.'

- Baby food producer

1. <https://www.brookings.edu/wp-content/uploads/2021/09/21.09.15-Greening-the-AfCFTA.pdf>
2. <https://www.weforum.org/agenda/2018/12/africa-s-fastest-growing-cities-are-the-most-vulnerable-to-climate-change-globally>

Making good choices

Increased production and value chain integration imply environmental risks whose mitigation requires well-designed strategies and investment choices.

While African companies are vulnerable to environmental risks, their current production processes also pose risks to the environment. The high carbon footprint of automotive production is well documented, and businesses along this value chain are aware of the air pollution coming from the vehicles they (help) produce. Many businesses and other

stakeholders stress the need to make the right choices when developing the industry in Africa.

This means favouring the development of low-emission cars, better regulating and monitoring environmental standards for vehicles across the continent, and enforcing these standards even for imported second-hand cars. It also means investing in the recycling infrastructure for lithium-ion batteries and embedding the automotive value chain development strategy in a wider vision of the future of mobility on the continent, including how to deal with increasing traffic in congested cities.

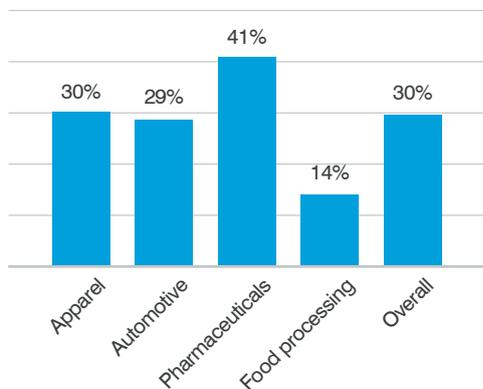
Better regulatory framework for a green transition

While many firms see the need – and are willing – to adopt greener practices, there is little pressure on them to do so. On the public-sector side, environmental regulations are often weak and not effectively enforced, leaving compliant

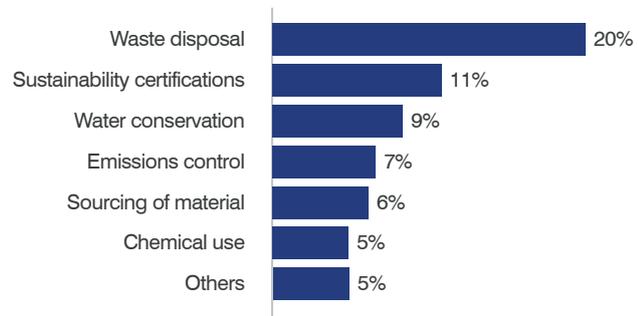
companies at a (cost) disadvantage vis-à-vis non-compliant competitors. Regulatory transparency is also a problem, with many companies unaware of what regulations they would have to satisfy at the national level.

Waste management regulations: Key for businesses

Companies facing constraints due to environmental regulations (or lack thereof)



Share of companies reporting difficulties with environmental regulations (or lack thereof), by type



Note: Based on survey of four value chains in Africa.

Source: ITC

The current or planned production of 30% of the businesses along the four value chains face obstacles due to current or missing environmental regulations. One of the biggest worries for companies, including those in export processing zones, is inadequate waste disposal and recycling systems.

For example, pharmaceutical companies cite a lack of guidance and systems to dispose properly of expired drugs and hazardous waste. Companies in the clothing industry report inadequate infrastructure and systems to dispose of or recycle water waste. Waste management is often dealt with at firm level rather than at the level of industry, country or in a coordinated effort across countries.

African buyers do not prioritize eco-friendly goods

Demand for environmentally friendly products is not yet very pronounced in local markets, according to interviewed companies and stakeholders. With baby food being a notable exception, business clients and end-consumers are not willing or simply unable to pay a price premium for more sustainable goods. This is apparent in the car market, where demand for cheap, substandard vehicles is high due to the low purchasing power of many clients.

In contrast, export-oriented companies, particularly those focusing on markets outside Africa, face more pressure from their clients to supply eco-friendly products or prove sustainable production processes. Apparel companies selling to European consumers usually comply with several production and sustainability certifications, while food processors say they must use biodegradable packaging when selling their products in certain markets. In the short term, most automotive companies envisage a transition to greener cars for the external market only, in line with standards and regulations in place in those markets.

Going forward, most interviewed businesses expect growing pressure from clients, including in domestic markets, for more environmental sustainability. They believe the business sector needs to prepare and be supported by governments so they can respond to this demand.

Greener production: Technology and skills

Many interviewed firms said they wanted to transition towards greener production to reduce energy and water costs, anticipate increasing government pressure or client demand, or as a prerequisite to export beyond Africa. However, small firms in particular often lack the know-how, technology and financial capability to move towards more environmentally friendly production.

Nearly all interviewed MSMEs said governments should offer support for green transition through tax incentives, financial support, access to low-interest loans or capacity-building programmes, among others. Many said they might not be able to stay in business if market requirements and domestic regulations become stricter.

Despite the challenges and lack of incentives, 77% of interviewed companies – including businesses of all sizes across countries and the four pilot value chains – have already started to implement initiatives and in-house solutions to make their production more sustainable, within the limits of their financial and technical capacities.

Some firms are using water-recycling and water-purification techniques throughout their production processes or have implemented internal waste management and recycling systems. Others are shifting to energy-saving appliances, such as LED lighting and alternative energy sources. A few companies have committed to use solar and biomass as their main energy source in the long term. Environmental considerations are not the only driver behind these investments: many businesses say an important reason to invest in alternative energy sources is to reduce reliance on unreliable or costly public power supply.

'Customers are increasingly requesting environmental audits. If customers increase their environmental standards we can adapt.'

- Apparel manufacturer

'Retail markets don't care and neither do the end consumers here. But our big export markets in Europe and our OEMs here in Egypt care about the environmental impact of our production processes.'

- Baby food producer



African businesses along the four pilot value chains that have taken some initiatives to make their production processes more environmentally friendly

Many companies, especially in the pharmaceuticals and processed food industries, are focusing on packaging. This has led to creative solutions including biodegradable packaging, packaging from recycled material and 'no-plastic' solutions, as well as refund schemes for clients returning packaging, such as bottles.

The entire business model of some African firms revolves around recycling and eco-friendly production or products. For example, some produce high-quality clothing from fabric waste and unusable second-hand clothing. This helps tackle the sometimes serious environmental challenges posed by fast fashion and the related trade in used clothing, often of very poor quality, on the African continent.

There are also local brands of electric and solar-powered vehicles and vehicles using green hydrogen fuels in countries including Ghana, Kenya, Nigeria, South Africa, Tunisia and Uganda. They successfully serve niche markets and prove that electric cars 'designed and made in Africa' are not just a utopian dream for the future.

Incentives and targeted support to 'go green'

Interviews show that a strong focus on environmental sustainability to develop pan-African value chains is not just a necessity, but also possibility, given the widespread awareness of environmental challenges among businesses. Firms seem to understand their own footprints well, and are ready to mitigate them. Continental, regional and national strategies to develop value chains need to give due consideration to environmental concerns and risks. Indicators must be designed to monitor, for example, waste recycling rates and efficient water and energy use.

Here is what firms, BSOs, industry experts and other stakeholders say would support the green transition:

- ✓ Designing and enforcing environmental standards and related product regulation and production processes, ideally in a coordinated effort across countries to maximize alignment and harmonization.
- ✓ Exchanging success stories, including from LDCs, and best practices between countries related to environmental regulations and effective implementation, to provide motivation.
- ✓ Massive investment in waste management and recycling systems across the continent.
- ✓ Industry-specific capacity-building programmes, particularly for MSMEs, on eco-friendly production technologies and techniques.
- ✓ Technology transfer, tax incentives and targeted financial support to MSMEs, especially women-led firms, for technological upgrades and to facilitate other investments (for transitioning to alternative energy sources, for instance).
- ✓ Closer cooperation between universities and the private sector to develop innovative solutions, e.g. for sustainable packaging or to reduce use of chemicals or plastics.



CHAPTER 4

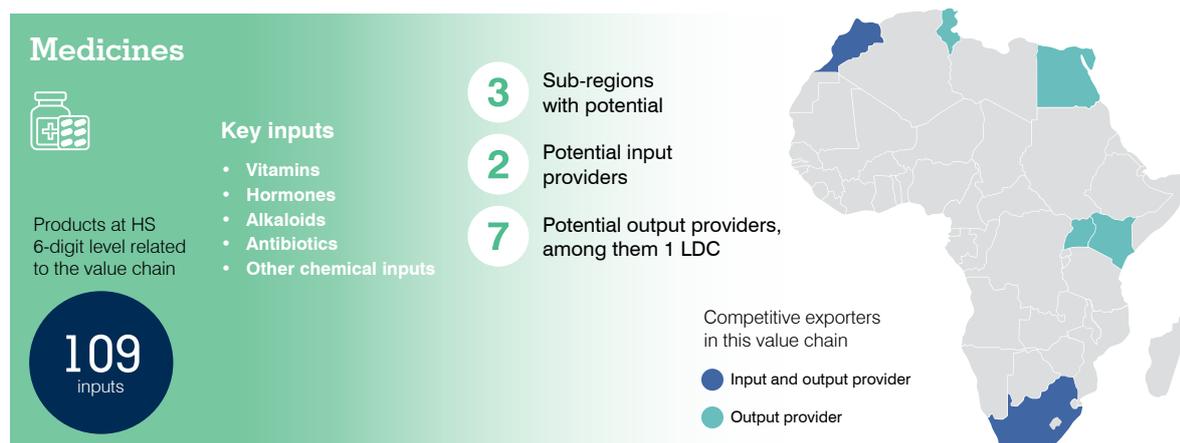
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CHAPTER 4 PHARMACEUTICALS: PREPARE, PROTECT



Note: The map shows potential providers of inputs that have comparative advantage or an export potential of more than \$10 million

Trade and investment opportunities

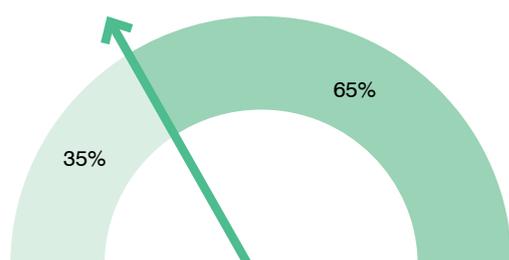
Africa's dependency on import of medicines is high, with a €12.6 billion trade deficit. African medicine manufacturers source only 2% of imported inputs from Africa. Current imports of €13 billion are set to increase by 79% by 2026.

Developing this value chain is important to build resilience to supply chain shocks, such as those caused by COVID-19. At the same time, the strong expected rise in demand opens attractive investment opportunities.

Few African firms trade medicines or inputs for medicine production. 65% of the current export potential of \$1 billion remains unrealized. Intra-regional value chains need considerable strengthening and development.

Seven countries, including one LDC (Uganda), could competitively export pharmaceuticals. Two – Morocco and South Africa – could also competitively export inputs for the pharmaceuticals value chain.

Figure 16 Most pharma export potential is unrealized



The sector reached less than half of its export potential of more than €1 billion that is likely to expand with support to Africa's value chain development.

Figure 17 What do firms say about trade agreements?



Little awareness of trade accords, but optimism about a continental deal

About 75% of interviewed businesses along the value chain in Africa have not seen or are unaware of any impact from trade agreements. However, nearly the same share (69%) believe a continental agreement could boost regional trade in the pharma sector.

That said, more than 40% of respondents in the sector are unaware of the AfCFTA, and upwards of 90% have never participated in a consultation on trade agreements.

Unprecedented chance to boost the sector at regional level

Businesses see plenty of opportunities – especially for the development of herbal and traditional medicine, given the abundance of organic resources on the continent – and for local production of APIs. But key challenges and investment needs must be addressed.

Firms believe there is an unprecedented window of opportunity to develop the sector at continental scale following the massive supply chain disruptions caused by the COVID-19 pandemic, as there is greater political will to cooperate across countries and tackle challenges.

SECTOR-SPECIFIC CHALLENGES

1. **Reconciling production costs with purchasing power.** Key cost drivers include a shortage of skilled labour specialized in disciplines relevant to the pharma sector (such as pharmacology, chemistry and biology) and high labour and company-borne training costs. Another cost challenge is fragmented production across countries with a focus on national markets that lack the necessary scale for more cost-effective production.
2. **Competition from Asian suppliers and the counterfeit and expired drug markets.** African suppliers find it difficult to compete against well-established mass producers in countries such as India and China because they largely focus on low-scale production for the domestic market. Pharmaceuticals producers also face pressure from the counterfeit and expired drugs markets, as these goods are sold for much less than locally produced certified products. This competition makes significant investments in technology, skills and innovations unviable. Inadequate protection of intellectual property also hampers investment in R&D.

'The main challenge in Africa is infiltration of counterfeit and substandard products. If this is not addressed and harmonized across the continent, it will be difficult to achieve self-reliance in raw material production.'
3. **Absence of local production of APIs and quality transformation of raw products.** Insufficient investment in skills and technologies are a factor. There is a lack of continental vision to ensure smart choices in prioritizing the development of certain types of APIs and to organize production across countries so there is sufficient scale for it to make economic sense.
4. **Inadequate waste management systems, including for water waste.** Environmental challenges including air and water pollution put local production quality at risk. However, businesses across different countries identify waste management systems as the top problem. They cite a lack of regulatory clarity on how to deal with contaminated and hazardous waste and the often-inadequate systems to treat such waste so it does not harm the environment or human health. Companies unanimously report an absence of government support, inadequate domestic demand and little pressure to green production processes.
5. **Regulatory and procedural obstacles, including trade barriers.** In the pharma sector, 80% of trading companies face obstacles when exporting to African markets and 60% face obstacles when sourcing inputs from the continent. These percentages exceed those in other pilot value chains.⁶ Pharmaceuticals firms raised concerns about the time, cost and bureaucracy to register a product, which must be done separately in each country, with differing requirements, and limited recognition of quality certifications between countries.
6. **Public tenders and related processes are opaque.** This leads to a lack of awareness of business opportunities in other African countries and unrealized trade and business development potential as a result

RECOMMENDATIONS

Investment is key to enable growth and integration at the continental scale. But any investment needs a good strategy. Businesses and other interviewed stakeholders recommend:

Pan-African level:

1. **Reformulate a vision and strategy, building on existing initiatives.** COVID-19 impact and the conclusion of the AfCFTA offer a window of opportunity to take stock of progress and lessons learned from implementing the Pharmaceutical Manufacturing Plan for Africa. It should be updated to reflect recent developments and opportunities created by, for example, the AfCFTA and the African Medicines Agency.
 - ✓ **Establish a continental quality infrastructure system** for pharmaceuticals, including a network of accredited laboratories that are accessible beyond national borders. Also, advance towards a continental product registration system that would enable medicine sales in all countries, once they are registered and approved – through a central agency or individual national medicines regulatory agencies.
 - ✓ **Develop a specific strategy for investment priorities to support local production of APIs and essential medicines.** Base it on a critical, detailed assessment of the types of APIs and essential medicines that could be competitively produced in the medium to long term. The strategy should reflect strategic choices to target investments geographically to ensure complementarity across Africa (e.g., in regional clusters focusing on different goods) and the necessary market size for each API and final product for production to be economically viable.
 - ✓ **Formulate a strategy to develop new treatments based on traditional medicines and the unique medicinal plants in Africa.** Establish a continental mechanism for documenting indigenous knowledge on plants and natural remedies as well as traditional medicines, and invest in R&D (ensuring intellectual property is protected) to transform this knowledge into new, commercialized treatments, particularly for diseases in Africa that have received little attention from multinationals.

'Africa is among the continents with the richest biodiversity. The earlier we join forces to exploit our own heritage and biodiversity to meet our medical needs, the better for us.'
2. **Step up investments in research on traditional medicines.** The widespread use of traditional medicine in Africa has important clinical implications, especially when used alongside conventional treatments. More studies should be carried out to enhance the knowledge of traditional medicine. Public health research must consider social, cultural, political and economic contexts to maximize the contribution of traditional medicine to healthcare systems.
3. **Invest in skills and better-tailored training.** Establish regional or continental centres of excellence and schools focusing on the technical skills. This will reduce the training burden on individual companies. To ensure that women can benefit, these schools should strive for gender parity, such as by determining a threshold percentage of spaces reserved for female students.
4. **Improve the transparency of public tenders.** This includes related processes as well as selection criteria for medicine procurement, based primarily on price. Including other criteria, such as supply security and diversification, may help regional suppliers compete.
5. **Create financial instruments to access to low-interest capital** for pharma companies that support start-ups, including for young and female entrepreneurs, and to stimulate investments in technology, quality (especially Good Manufacturing Practices certification), skills and innovation.
6. **Improve intellectual property provisions** at the continental level. Governments should work in a more coordinated manner and with global bodies such as the World Intellectual Property Organization to adopt international models, methodologies and best practices for intellectual property valuation. It is vital to intensify public-private partnerships where the government helps business develop nascent or new techn

7. ology. African governments should work with banks to extend loans to entrepreneurs who use intellectual property as collateral.
8. **Ensure a strong mandate and role for the African Medicines Agency** in driving regulatory convergence and strengthening the financial, technical and human resources available to national medicines regulatory agencies (NMRAs), particularly in LDCs.

Box 3 The pharmaceutical initiative for Africa

UNECA, in collaboration with the African Union Commission, the African Union Development Agency, the World Health Organization, the Joint United Nations Programme on HIV/AIDS, the United Nations Population Fund, the Development Coordination Office and the Intergovernmental Authority on Development launched an AfCFTA-anchored pharmaceutical initiative in November 2019. The project is being piloted in the Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, Seychelles and the Sudan.

The initiative supports efforts by governments to tap into pharmaceutical trading opportunities under the AfCFTA. It adopts a three-pronged approach: localized production, pooled procurement and harmonized regulatory and quality frameworks. Expected improvements include better access to effective, safe and affordable medicines and supplies; increased intra-African trade in pharmaceuticals; and a significant drop in the cost of medicines, which will free up greater fiscal space for African governments in an era of rising debt.

Establishing a continental agency to help improve regulation of medicines, medical products and technologies is crucial to securing safe and non-counterfeit intra-African trade in pharmaceutical products under the AfCFTA. The UNECA initiative also aims to support ratification and implementation of the African Medicines Agency, which will serve as a specialized agency of the African Union. The agency will have its own rules, membership and resources to enhance the regulatory capacity of states parties and regional economic communities to improve access to quality, safe and effective medical products on the continent.

Source: UNECA (2021). *Building competitive and resilient pharmaceutical value chains through the African Continental Free Trade Area.*

National level:

1. **Enforce regulatory oversight of counterfeit and expired drugs** with greater cooperation and sharing of best practices between countries. Invest in better product-authentication systems such as those that use artificial intelligence and blockchain technology. Sensitize consumers to the dangers of counterfeit and expired drugs. Introduce stricter penalties for selling unregistered or expired medicines and misleading ingredient labelling.
2. **Improve waste management systems, including for water waste**, and introduce/clarify and enforce environmental regulations on pharmaceuticals and their production. These should cover, for instance, the right method to dispose of expired drugs or contaminated water. Invest in more sustainable packaging solutions and related recycling systems. Facilitate investment and technology transfer towards greener processes and systems.
3. **Increase transparency and predictability.** Time and cost of administrative processes can be streamlined, especially for national product registrations, quality and origin certifications and export licensing.
4. **Review taxation** systems and related incentives, notably the cost and benefits of value-added tax (VAT) levied on inputs for pharmaceutical production. Consider introducing or expanding refund schemes for taxes levied on inputs used to produce pharmaceuticals, particularly essential medicines.

'For locally manufactured medicines, VAT is applied on inactive and packaging materials but not on APIs. For imported medicines, VAT is not applied. This leads to unfair competition.'



Innovating to compete in Tunisia's pharma sector

This pharma producer invests in research and development to stay competitive.

Pharmaderm laboratories has targeted innovation since its birth in 1986, when founder and French-trained pharmacist Zeineb Tlili El Ghali shifted from dispensing medicine to developing cosmetics and pharmaceutical products. The Tunis-based company has never looked back, says Chief Executive Officer Sélîma El Ghali Krichen.

Sélîma El Ghali Krichen

Chief executive officer, Pharmaderm laboratories

Tunisia

'Pharmaderm has always focused their know-how on product development. From day one, we made the choice to develop our own products,' she says. 'The craze for the products [El Ghali] offered to friends and family poised her to embark on the production of dermo-cosmetic products, initially. Other sorts of pharmaceuticals were included later on.'

The Tunisian pharma sector has grown substantially over the past decades and so has Pharmaderm. The company develops all the products it sells and knows it must continue to invest in innovation and new technologies to remain competitive.

A call for safer, sustainable pharmaceuticals

Pharmaderm's strategy is in line with international consumption trends, such growing demand for more sustainable and safer products, Krichen says.

While she considers Africa's pharmaceutical sector to have excellent growth potential, it is riddled with challenges, such as high prices, a lack of harmonized drug regulations and poor procurement and supply chains. Some of these are frustrating Pharmaderm's hopes of boosting exports to other African countries.

'Exchanges with other countries of the continent remain complex on several levels. We face administrative slowness and cumbersome and off-putting documentation. We face the complexity of transport, cost of transportation and the absence of a direct sea and air freight line to several destinations, among others.'

The African Continental Free Trade Area may eventually help tackle some of these obstacles, Krichen says. 'The trade agreement implementation could facilitate exchanges between our countries on the African continent and would be a definite opportunity for the development of the pharmaceutical sector in Africa.'





Integrating pharmaceutical value chains in Africa

Many African medicine manufacturers struggle to diversify suppliers and source inputs locally.

The future of African-made medicines is 'exceptionally bright' as the continent has a young and growing population that is seeking effective healthcare solutions, says Darren Peters, plant head of Abacus Parenteral Drugs Ltd (APDL).

Darren Peters

Plant head,
Abacus Parenteral
Drugs

Uganda

That's one reason the Kampala-based company, which specializes in parenteral medicines – those administered via intravenous or intramuscular injection – has invested in automated manufacturing processes.

APDL supplies more than 95% of the Ugandan market of parenteral drugs and 50% of East Africa's needs. It also produces infusion products such as IV fluids and eye, ear and nasal drops.

Stronger African ties could tackle sourcing challenge

Like other African pharmaceutical companies, APDL faces difficulties diversifying its suppliers and sourcing inputs locally.

'As a local pharmaceutical manufacturer servicing the East African and sub-Saharan African market, 60% of all inputs are procured internationally,' Peters says. 'This presents a risk with the erratic nature of global supply chains in the past two years. It has been incumbent on manufacturers to develop innovative plans to limit any impact to the end user.'

That's why the Ugandan company considers stronger commercial ties with African partners to be essential. 'We see this as our preferred market in the vertical supply chain. An ideal scenario would be to source most of our materials locally, but scale and the specific sector requirements hamper further growth in this area,' Peters added.

He hopes the African Continental Free Trade Area will ultimately be a game changer in helping to forge an integrated pharmaceutical value chain in Africa. 'The approach to unlocking that potential will be of utmost importance,' he says. 'However, African manufacturers must have a seat at the table to develop these solutions.'



Illicit drugs: Unfair, unsafe

Pharmaceuticals are among the most counterfeited products in the world. Trade in illicit medicines is a serious issue, as it can harm consumers and hold back development of the pharmaceutical industry in Africa. Illicit pharmaceuticals can include counterfeit, falsified or expired drugs.

Counterfeit drugs are medical products made by someone other than the genuine manufacturer, by copying or imitating an original product without authority or rights. Counterfeit medicines infringe trademark law.¹ They may not necessarily compromise the safety and quality of medicines.

Cross-border trade in counterfeit pharmaceuticals was worth an estimated \$4.4 billion in 2016.² Antibiotics, lifestyle drugs and painkillers are among the most commonly traded counterfeit drugs. These products are finding their way to buyers through post and parcel services, but the distribution has shifted from physical to online markets and those are advertised on social media platforms.

In contrast, falsified medicines are fake medicines that are passed off as real, authorized medicines. They may contain ingredients of low quality or in the wrong doses; be deliberately and fraudulently mislabelled with respect to their identity or source; or have fake packaging, the wrong ingredients³ or low levels of the active ingredients. Falsified drugs are of no benefit and can even harm the patient.

Counterfeit and fake medicines put consumers at risk

About two-thirds of the businesses along the pharmaceuticals value chain consider trade in counterfeit drugs to be major challenge in their country. They say this trade damages the revenue and reputation of original manufacturers and reduces the competitiveness and attractiveness of the sector for investments. Trade in illicit medicines is also a high risk for consumers. Affordability is one of the main factors that drives consumers to buy illicit pharmaceuticals – despite the risks.

Firms and business support organizations say consumers are often insufficiently informed about the potential harm of counterfeit, fake and expired medicines, and find it hard to distinguish between them and the original pharmaceuticals.

National legislative frameworks, surveillance systems and the capacity of national authorities to monitor pharmaceutical sales and trade are among the key factors that firms say determine how detrimental counterfeit and falsified medicines are to their businesses.

Differences between countries are substantial. In some East African countries, all respondents report major issues due to trade in counterfeit drugs. In contrast, companies in Morocco, Tunisia and Mauritius are more confident that their national regulatory and monitoring systems can shield them from such drugs. Most (64%) of African pharmaceutical companies say counterfeit drugs hurt their business, while 34% say they have no impact and the rest say they are unsure.

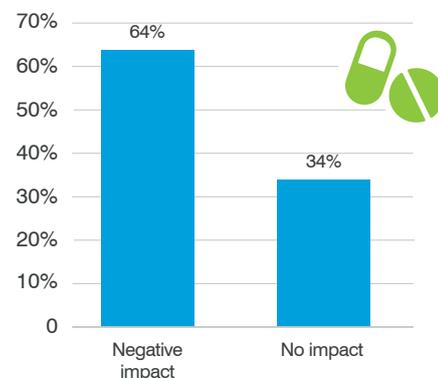
'Counterfeits and expired products are sold at low prices and sometimes resemble the genuine products and consumers may not be able to differentiate.'

- Pharmaceutical distribution company

'This highly affects the business. Customers tend to prefer expired drugs as they are cheaper even though they are dangerous. The Government needs to be vigilant in containing the market of expired drugs.'

- Pharmaceutical company

Most firms feel the negative impact of illicit drugs



Regulatory gaps limit counterfeit drugs control

While some large economies have mature and efficient agencies to apply pharmaceutical-related laws, regulatory gaps make control of imported counterfeit drugs difficult in many African countries.

For instance, many lack clear legislation addressing counterfeit medicines. Controls often focus on pre-market authorization rather than post-market surveillance. In addition, the counterfeit drugs trade is increasingly taking place on online platforms, which weakens regulatory enforcement. Many countries have taken steps to control advertising and labelling, but little is done to control online pharmacy operations. Several operators also said sanctions were insufficient and ineffective.

How to tackle trade in illicit medicines?

Countries have applied various initiatives to deal with illicit pharmaceuticals. Examples of good practice mentioned by businesses and other stakeholders include:

- ✓ Reliance on a central entity with the sole authority to import medicines (e.g. the Central Pharmacy of Tunisia)
- ✓ Public–private partnerships to establish surveillance cells
- ✓ Initiatives to sensitize consumers to the risks of illicit pharmaceuticals
- ✓ Traceability systems for authorized medicines
- ✓ Investment in (accredited) medicine-testing laboratories for more effective quality control and detection of fake drugs
- ✓ Becoming party to and implementing the Council of Europe Convention on the Counterfeiting of Medical Products and Similar Crimes involving Threats to Public Health, known as MEDICRIME. This international criminal law convention criminalizes the falsification of medicines and encourages the exchange of information and good practices between states.

The way forward

Pharma businesses want greater regional cooperation to combat illicit pharmaceuticals, e.g. through greater exchange of information, alignment of legislation across countries and with international standards, improved traceability of pharmaceutical products including across borders, exchange of good practices and technical cooperation for implementing effective surveillance systems with special support to LDCs.

'Counterfeit drugs cause reputational damage, not only to the targeted brand. If any brand gets counterfeited and the drug is fake, it sends the signal that medicines made in that country are of low quality and cannot be trusted. Thus, the general demand for pharmaceuticals made in the country begins to decline, affecting every single player in the market.'

- Business support organization in Africa

'Trade of illicit pharmaceuticals is very well controlled in Mauritius. They have strict regulations, and inspections are done regularly. For imported drugs, all documents are scrutinized. Pharma board green light is required for registering new drugs. There is also a plan for random sampling and testing in pharmacies. The government and private sector are both committed to this and hence the counterfeit market is very small in the country.'

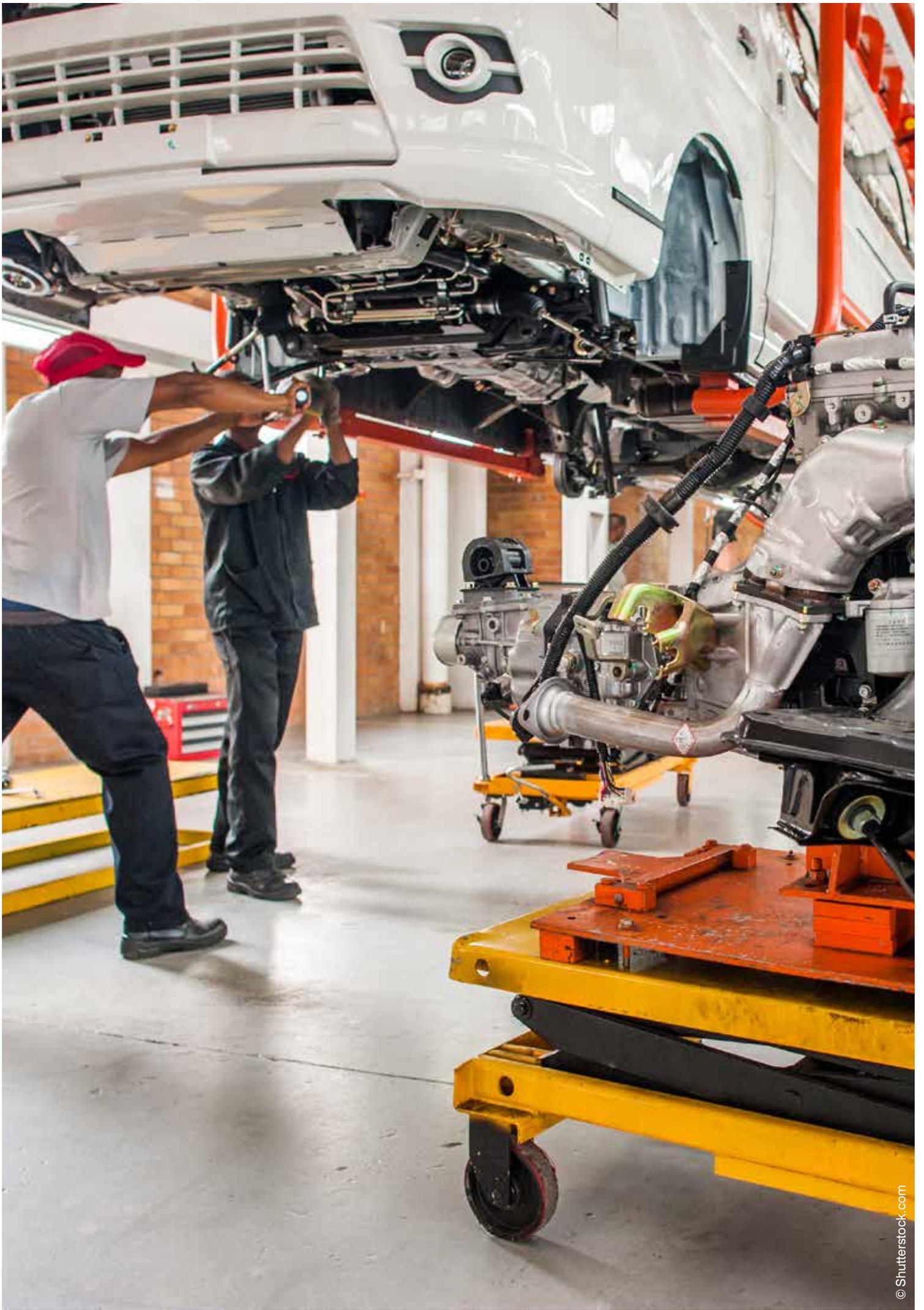
- Business support organization in Africa

'The counterfeit market has a major impact on legitimate businesses affecting their profitability as well as the quality of products in the market. National authorities should increase surveillance and sensitize consumers. We should also take advantage of latest technologies to develop packaging that can be verified by consumers, e.g. through QR codes.'

- Medicine manufacturer

References

1. <https://www.ema.europa.eu/en/glossary/counterfeit-medicine>
2. OECD/EUIPO (2019)
3. <https://www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/falsified-medicines-overview>



CHAPTER 5

AUTOMOTIVE: TOWARDS GREENER MOBILITY

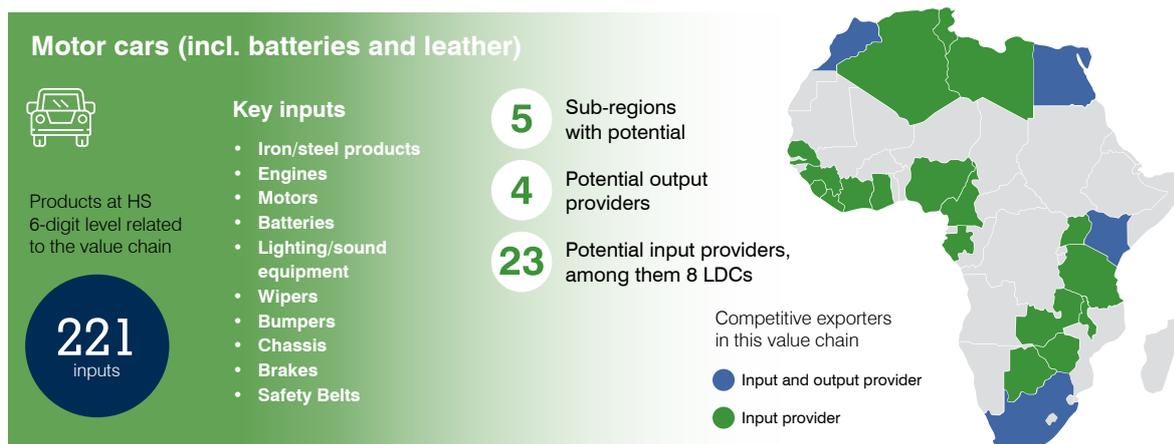
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CHAPTER 5

AUTOMOTIVE: TOWARDS GREENER MOBILITY



Note: The map shows potential providers of inputs that have comparative advantage or an export potential of more than \$10 million

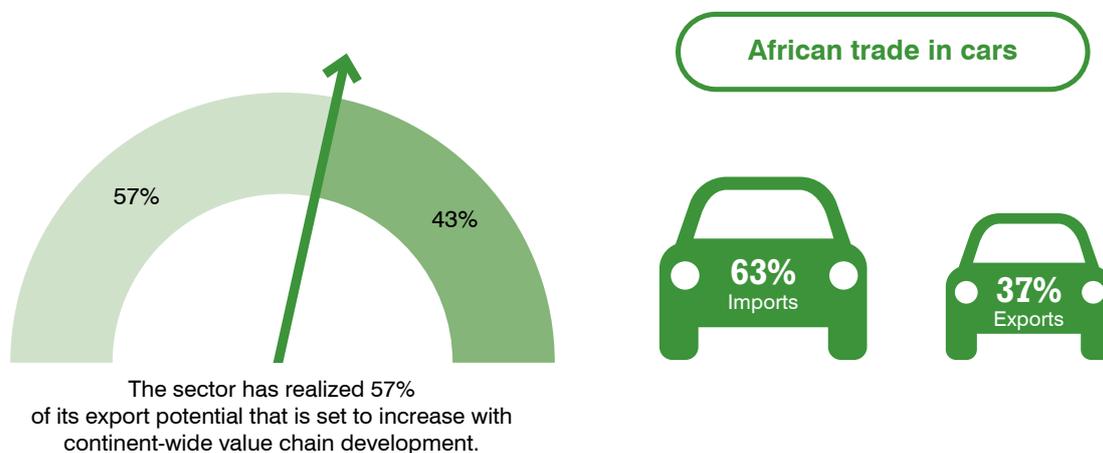
High potential for intra-Africa trade

The African automotive sector has an export potential of €9 billion by 2026, nearly 10% of which is on the continent. Cars are Africa's fourth most important export product, accounting for 2.1% of total exports. Automotive is among the sectors with the highest growth potential for intra-African trade. This is the case under current tariff conditions, but even more so under the AfCFTA: Intra-African export potential in the sector could rise by €3.7 billion under full tariff liberalization.⁷ Value chain integration promises to give a further push to Africa's automotive export potential.

Vehicle manufacturing in Africa is very limited and concentrated in just a few countries. In addition, the sector sources only 3% of its inputs from Africa. Connecting the countries that could produce inputs for the value chain with those that could produce the outputs could boost the sector's potential and create decent manufacturing jobs across the continent.

Creating links with other value chains

African imports of cars are sizeable, at €14.3 billion, and are projected to rise by more than 60% as of 2026. The continent's trade deficit for cars is €5.8 billion, as imports are 70% higher than exports. This negative trade balance and expected import demand growth create incentives to exploit the potential for domestic car manufacturing and strengthen regional value chains.

Figure 18 Nearly half of the sector's potential remains unrealized

The case for developing the automotive value chain is further reinforced by its linkages with other promising subsectors and value chains, such as leather and leather products and electric machinery (batteries). For both these value chains, ITC estimates that 22 and 16 countries, respectively, could provide inputs and outputs.

Twenty-three African countries, including eight LDCs, competitively export inputs for the automotive value chain. Four of them – Egypt, Kenya, Morocco and South Africa – already are competitive exporters of the final product.

Little awareness of existing trade agreements

While the African market is large and promising, 87% of interviewed businesses have not seen or are not aware of any benefits arising from trade agreements with other African countries. Compared with other pilot sectors, businesses in the automotive value chain are also relatively less optimistic about the effect of a continental agreement: only 60% believe such an agreement would boost regional trade in the sector.

Nearly half of the respondents have limited knowledge of the AfCFTA, while those who do know of it are uncertain about what it entails and its intended implications for their business operations.

Few women own, manage or work at car companies

Women own or manage fewer than 10% of interviewed firms – markedly lower than the share of women-led businesses in other sectors. In every third company, women constitute less than 10% of the workforce – with some employing no women at all. On average, only 28% of employees are women. Only one in five companies employs more women than men.

SECTOR-SPECIFIC CHALLENGES

1. **Visions and strategies for sector development have mostly been formulated with a national focus and for only a few countries.** A strong sectoral vision at the continental level has emerged only recently, driven largely by the private sector. The conclusion of the AfCFTA creates important momentum to further intensify these efforts.
2. As a result of the national focus, **production of finished goods is fragmented and the necessary scale is lacking to make production economically viable, especially for high-quality technical components.** This leaves companies with no option but to source inputs primarily from other continents.
3. **The continent lacks refining capacity,** with most quality transformation of raw materials happening outside the continent, mainly in Europe, the United States and Asia.
4. **Limited capacity to comply with complex quality and origin criteria and related documentation requirements.** High levels of investment and technical know-how are required to manufacture the high-quality inputs needed to produce modern and safe cars. Businesses said the scarcity of specialized, high-skilled labour (e.g. engineers) added to production costs, limited access to modern technology and resulted in low investment in R&D needed to ensure and upgrade production processes – for both of inputs and finished products.

Big international brands reportedly have most of the know-how in the sector. Detailed documentation requirements to show compliance with origin criteria mean just a few companies can trade under existing preferential schemes, mostly as part of value chains driven and controlled by large original equipment manufacturers (OEMs).

5. **Limited infrastructure to certify against complex origin and quality criteria** for things like engine emissions or the safety of seat belts. Sophisticated production processes require corresponding institutional capacity – in customs administrations, standards bodies and laboratories, among others – to certify against and control quality and origin criteria. Divergent standards across countries further complicate value chain integration across borders.
6. **Limited demand for new cars.** This is due to the high cost of new car production and the low prices of imported used vehicles owing to tariff and tax structures, unfavourable rules of origin and inadequate enforcement of quality and environmental standards.

‘Consumers prefer buying a cheaper fully built imported car than assembled semi-knockdown cars that are more expensive because of government duties.’
7. **Challenges related to waste disposal.** Proper disposal of hazardous waste derived from production represents a challenge for most interviewed companies along the value chain. Lack of information on proper waste disposal requirements, inadequate waste disposal systems and the absence of effective environmental regulations are contributing factors. Furthermore, high cost is associated with waste treatment and disposal, which requires exporting waste to other countries where national infrastructure is missing.

‘There is too little demand. We previously tried to start business with some OEMs in Africa, but their required quantities are very small and didn’t fill a full container load. Given the nature of our product (hazardous), we cannot do less than container load.’
8. **Limited readiness in terms of strategies, policies, incentives, investment, infrastructure and production technology for eco-friendly vehicles,** such as electric cars or vehicles using green hydrogen fuels. Firms and other stakeholders agree that such vehicles are the future of the African car market. However, the (few) companies that are involved in the production of electric and solar vehicles report difficulty accessing finance to start, maintain, improve or expand production, owing to the high risk associated with such investments.

‘Yes, we produce electric vehicles. But people still largely prefer fuel cars. This is partly because the government has not put in place the needed infrastructure to assure users that their vehicles can be adequately powered. For the vehicles we sell, we build our own charging stations.’

RECOMMENDATIONS

The AfCFTA represents a milestone in creating an enabling environment for the development of the automotive sector. The agreement directly addresses some of the abovementioned challenges, notably linked to market size and ease of trade. As such, the AfCFTA has the potential to contribute significantly to making high-quality cars – including both new vehicles and used cars that abide by quality and environmental standards – more affordable for Africans.

Still, more efforts are necessary to realize the full potential for automotive value chain development and integration in Africa. Key recommendations include the following:

1. **Accelerate the formulation and adoption of an African automotive development plan** that clearly articulates the vision for the sector, indicating the type of cars Africa would want to prioritize in light of rising air pollution, climate change and increasingly congested cities. Also, formulate an implementation strategy to develop the industry. Embed the sector development plan in a wider vision for the future of mobility in Africa. In the plan:
 - ✓ **Determine whether sector development objectives should be achieved solely by attracting investments of OEMs and tier 1 suppliers** driving the local production of components and assembly of the finished product. Alternatively, assess whether it is feasible to also further develop own brands, building on and scaling some existing successes of African brands serving niche market segments.

'To have a significant exchange between countries in Africa, there are two possibilities: 1) development of the automotive parts and components market through the establishment of OEMs or tier 1 suppliers in Africa [or] 2) develop our own brands. In both cases, we have to invest in modernization, production capacity and industrial infrastructures.'
 - ✓ **Give due consideration to the development of supporting infrastructure and services.** These include aftersales and repairing services, recycling and waste management systems, including for batteries, and production of green hydrogen fuels.

'We must push OEMs to direct production lines of certain models to Africa, which will logically pull afterwards the auto parts components manufacturers. Also, the OEMs should extend their approved lists of sourcing raw materials.'
 - ✓ **Define a strategy to increase female employment as well as the presence of women-led firms** in the value chain.

At the national level and where relevant, update national strategies to develop the automotive industry so they align with the continental vision.
2. **Invest in and step up current efforts, led by the African Organisation for Standardisation and supported by Afreximbank, among others, to harmonize automotive sector standards in Africa.** At the national level, adopt and implement the standards once available.
3. **Stimulate the green transition.**
 - ✓ **Devise a strategy to support the gradual shift towards manufacturing of low-emission vehicles** by raising awareness, developing skills, investing in infrastructure and technology, and having conducive policy and regulatory frameworks.
 - ✓ **Strengthen, effectively enforce and work towards harmonization of legislation, particularly safety and environmental requirements, that regulate used car imports.** Introduce and enforce vehicle emission standards, including for imported used vehicles, and consider fiscal incentives for low- and no-emission vehicles, both new and used.
 - ✓ **Facilitate investment in the charging and hydrogen fuelling infrastructure** for electric and hydrogen vehicles, e.g. through tax incentives or rent-free land for charging stations.
 - ✓ **Invest in environmentally safe recycling facilities**, including for used lead-acid and lithium-ion batteries. These facilities should have strong pollution-control mechanisms and related oversight to minimize the widespread illegal recycling practices that damage human health and the environment.

- ✓ **Develop a strategy for recycling of end-of-life vehicles** that emphasizes raising awareness around eco-friendly management of these vehicles. Create a regulatory framework that encourages proper waste management and recycling of automotive shredder residues that are landfilled, and implement policies around vehicle deregistration.

In the longer term, plan to optimize car manufacturing processes so the share of automotive shredder residues in end-of-life vehicles is reduced. With adequate technical support and recycling technologies, this will help prevent oil spills and leaching of other hazardous substances to the environment from these vehicles.

- ✓ **Improve the quality of fuel supplied** and ensure that the sulphur content is reduced to levels compatible with Euro IV/Euro V engines.
 - ✓ **Negotiate with countries exporting used cars** to envisage measures limiting exports of vehicles not meeting safety or environmental standards.
4. **Enable the local transformation and refinement of raw materials**, such as copper, leather, iron, steel, aluminium, cobalt and rubber, into value-added products that can be used to manufacture components and finished cars – on the continent and beyond.
 5. **Define rules of origin in a way that, despite their complexity, they encourage investments in local manufacturing (e.g. through high local-content requirements) while also supporting preferential trade.** The latter hinges on the clarity of the rules, including the requirements pertaining to transformation processes needed to obtain originating status for non-originating inputs, cumulation and origin-related documentation requirements to prove compliance. Rules of origin should leave little room for interpretation for both businesses and certifying and controlling agencies.

Build the capacity of companies to comply with documentation requirements around origin certification. Raise awareness of participants along the value chain on how the rules at the continental level stand in relation to the ones that have been agreed under regional accord, as well as those defined in trade agreements with third countries outside the continent.

6. **Improve and strengthen market information systems at the regional level** by establishing coordinates of potential regional input providers on a single platform and organizing sector-specific regional events and trade fairs to bring together businesses from across Africa.
7. **Set up industry-wide R&D facilities and networks and build cooperation with universities** to encourage new technology adoption, quality control, lean manufacturing and computer-aided designs. Set up specialized training and incubation centres and skill-development institutes to train in relevant disciplines including engineering, design, manufacturing and quality. Promote knowledge transfer by collaborating with foreign and international institutions as well as OEMs, and through dual vocational training with the industry, to build a pool of qualified and specialized personnel.
8. **Review tax and tariff structures on inputs and final products.** Where feasible, accelerate the implementation of tariff reductions foreseen under the AfCFTA.
9. **Introduce tailored vehicle-financing schemes and car loans** so high-quality cars are more affordable.





Rosy outlook for Africa's car-painting market

Africa's car-painting market is poised for growth once supply chain disruptions come to an end.

El-Gammal Company, one of the biggest automotive painting businesses in Egypt, is ready to expand in neighbouring markets, says quality manager Said Ragab. But those expansion plans are on hold due to current geopolitical uncertainties.

Said Ragab

Quality Manager,
El-Gammal Company

Egypt

'The war in Ukraine is a significant challenge for our company,' Ragab says. 'It has created a lot of difficulties to import raw materials. It has affected the whole global supply chain.'

Expanding beyond borders

Still, growing demand in Egypt and other economies signals a positive outlook for the African car-painting market in the longer term. El-Gammal, which has already expanded across the Middle East-North Africa region and other African countries, intends to make its move when circumstances improve.

'We intend to double our exports by 2027. Currently, 10% is exported, mostly to Nigeria and Libya,' Ragab says.

El-Gammal, an original equipment manufacturer of automotive coatings that was founded in 1985, covers about 90% of the needs of Egypt's automotive industry, according to Ragab. El-Gammal is investing in staff training to prepare its engineers and other employees for its eventual expansion.

Ragab said he is 'cautiously optimistic' that the African Continental Free Trade Area will deliver on Africa's goal for inclusive and sustainable development. He believes African companies are already working hard to make continental integration a reality.





Greener mobility for Ghana

The growing popularity of e-vehicles underpins green mobility and suggests that Africa's future is electric.

Solar Taxi, born of Jorge Appiah's dream to find a sustainable solution for the transport challenges in Africa, built a prototype solar-powered vehicle in 2018 using just available parts and spares. Just four years later, the start-up is established in four locations in Ghana and looking to expand across borders.

The e-mobility company designs, sells and leases electric motorbikes, using components from China and India and assembling all the vehicles in Ghana, Appiah says. On average, Solar Taxi produces 20 electric bikes and 8 tricycles daily.

The company also distributes imported electric cars based on its own original designs and plans to start local assembly by the end of the year. Appiah believes the growing popularity of the solar-powered vehicle business model will boost synergies with other companies across the continent and hopes eventually to diversify the supply chain in favour of African partners.

'Unfortunately, it is still too soon to have a local supply system,' Appiah says. 'But our goal is to have 70% of the supplies for assembling electric vehicles coming from Africa by the end of 2030. It is an ambitious goal, but it is possible.'

Women have designed many of those vehicles. In 2019, Solar Taxi set up a training academy for female workers in a bid to break gender barriers in Ghana's automobile industry. Today, most of the company's engineers are women. The academy also supports and educates women to obtain a driving licence and become drivers for the company.

'In the mobility industry, women are being systematically excluded from the value chain,' Appiah explains. 'We are one of the few companies in the world to have more than 60% of female engineering staff.'

Bringing women engineers and drivers on board

Solar Taxi also created a smartphone application that enables customers to hail an electric ride in Accra. Use of the app is growing, with about 100 rides hailed every day. And e-commerce businesses including Jumia and Bolt also use Solar Taxi vehicles to deliver their products in Accra, saving transportation costs amid ever-rising fuel prices.

Despite its growth, financing remains a problem for Solar Taxi. 'We face many challenges to raise capital to scale up the production,' Appiah says. 'People see our cars in the market, are interested and want to buy them, but we cannot meet their demand.' The company has a backlog of about 150 car orders and 3,000 bikes, with orders coming in from Ghana as well as Nigeria, Côte d'Ivoire, Cameroon and other parts of West Africa.

In July, Solar Taxi said it had received an investment to scale its business activities, which may include expanding its business model to other African countries.

'We have Africa at the centre of our activity,' Appiah says. 'We have the technical abilities to design, produce, assemble, build and maintain orders with solid local expertise. We intend to scale our production across the continent, taking advantage of the African free trade zone.'

Jorge Appiah

Founder and chief executive, Solar Taxi
Ghana



Used car imports: Managing pros and cons

Africa is a large importer of second-hand cars. The top three exporters of used vehicles – the United States, the European Union and Japan – together exported just under 14 million used vehicles between 2015 and 2018. Clients in African countries bought the biggest share of these vehicles (40%). On average,

used imports account for more than 60% of vehicles registered on the continent every year.¹

In Kenya, 96% of vehicles imported between 2010 and 2014 were second-hand. In Ethiopia, used vehicles accounted for 80% of sales in 2016. In Nigeria, the ratio of new car sales to used vehicles stands at 1:130.²

Few countries prohibit used vehicles imports

There is no harmonized approach in Africa to regulate imports of second-hand vehicles. Many countries – most of them in East and West Africa – impose no restrictions on importing used cars. Others ban imports of used vehicles above a certain age. A few countries, such as Egypt, Seychelles, South Africa and Sudan, ban all used car imports.³

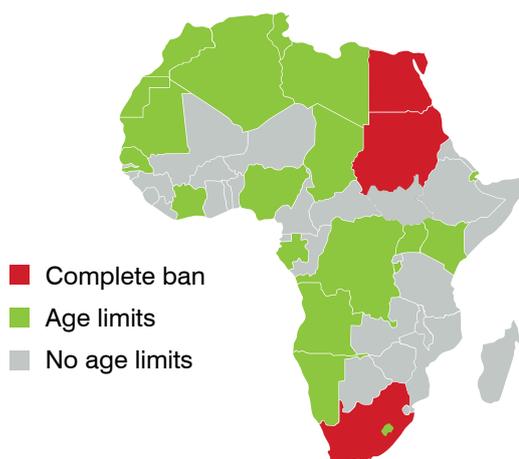
A few African countries incentivize importing cleaner cars. For instance, Nigeria imposes higher taxes on imports of diesel vehicles than on petrol vehicles, as diesel engines are bigger polluters. In Uganda, imported vehicles that are less than five years old are exempt from any environmental levy, while older vehicles are subject to a levy between 35% and 50% of the customs value.⁴

Strong demand for second-hand cars

Demand for imported used cars in Africa is high, largely because of their affordability. It is likely to remain strong given the low motorization rate in Africa and a growing population with only moderately rising income levels. A study of consumer preferences in East Africa indicates that price is the most important criterion for vehicle owners in Uganda, while it comes second following fuel efficiency for Tanzanian consumers.⁵

Budget constraints and limited vehicle-financing schemes mean new cars are out of the reach of many African households. As a result, many businesses and other stakeholders consider new and used cars as complementary markets serving different client segments, arguing that demand for new cars will not necessarily increase if imports of used vehicles are banned and that many people would prefer buying new cars if they could afford them.

Used car imports: Current restrictions



'Consumers in Africa buy more used cars because they are 30 to 50% cheaper than a new car. Given the low purchasing power of citizens in Africa, they cannot bear the price of buying new cars. That is why new and used vehicles should coexist in the same market to serve all consumers.'

- Automotive business

Source: UNEP (data collected in 2020)

- Used vehicles and the environment: a global overview of used light-duty vehicles (UNEP, 2020).
- Promoting safer and cleaner used vehicles for Africa (the Federation International de l'Automobile, 2020).
- Used vehicles and the environment: a global overview of used light-duty vehicles (UNEP, 2020).
- Connecting Countries and Cities for Regional Value Chain Integration Operationalizing the AfCFTA (WEF, 2021).
- Africa Automotive Insights, an East African consumer perspective (Deloitte, 2018).

Value chain actors: Used cars are an opportunity

Interviews with African businesses along the automotive value chain reveal a surprisingly positive view of the second-hand car market. About 40% of respondents find the market helpful in meeting the needs of Africa and see it as a source of business opportunities, while another 35% see both opportunities and challenges.

Many small companies engage in the automotive value chain that provide parts and components or offers maintenance and repair services. These firms do not consider imports of second-hand vehicles a threat to their businesses.

Some respondents also point to business opportunities associated with specialization in upgrading (to meet safety and environmental standards) or recycling used vehicles or individual parts and components – especially batteries, given the shift towards electric vehicles and the growing need to deal with end-of-life batteries.

Poor-quality and unsafe vehicles raise concerns

Around a quarter of the interviewed businesses view second-hand car imports negatively. While some consider used cars a threat to the domestic auto manufacturing industry, most cite environmental concerns and quality and safety concerns. Indeed, while Africa has the lowest motorization rate globally and fewer than 3% of the world's vehicles, it accounts for 20% of the all road deaths.⁶

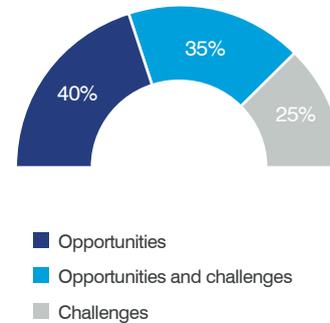
The way forward

While importing used cars comes with challenges, it can co-exist with Africa's automotive manufacturing industry. Several initiatives are needed, however, to minimize the negative impact of the second-hand car market.

First, a regulatory framework that restricts imports of unsafe and highly polluting vehicles is necessary. Countries should impose strict rules for vehicle emissions and fuel efficiency. The United Nations Environment Programme recommends minimum emissions standards, for instance the EURO 4 standards, as well as age restrictions (the latter being less technical and thus easier to monitor and implement).

ECOWAS countries adopted some of these measures in 2021 to reduce air pollution and climate emissions. Governments could also incentivize the use of low- and zero-emissions vehicles, regardless of whether they are new or second-hand cars, e.g. through taxation.

African businesses perceive the imported second-hand car market both as an opportunity and threat



Not everyone agrees that import bans are the right approach to tackle such challenges. Some businesses say imports are not to blame for safety issues, air pollution and congested cities. Rather, it's the lack of safety and environmental standards and their enforcement – both for imported and nationally produced cars – combined with insufficient urban mobility strategies and underdeveloped public transport networks.

Adopting and effectively implementing the Global New Car Assessment Programme Fleet Safety Guidelines and Safer Car Purchasing Policy as well as relevant United Nations regulations (e.g. on seat belt anchorages, safety belt and restraint systems and advanced emergency braking systems) can improve vehicle safety. Requirements for periodical technical inspections of wheeled vehicles to confirm their roadworthiness and compliance with environmental standards can further help address challenges.⁷

As for all legislation, proper implementation and monitoring will be key to achieve the desired results.

Action may also be warranted on the exporting side. The top exporting countries of second-hand cars in Europe, North America and Asia should consider limiting exports of what is essentially considered as waste in their own markets – that is, vehicles not meeting safety or environmental standards that would not or no longer be authorized to circulate on their roads.

6. Used vehicles and the environment: a global overview of used light-duty vehicles (UNEP, 2020).

7. Promoting safer and cleaner used vehicles for Africa (the Federation International de l'Automobile, 2020).



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CHAPTER 6

COTTON APPAREL: WOMEN EXCEL

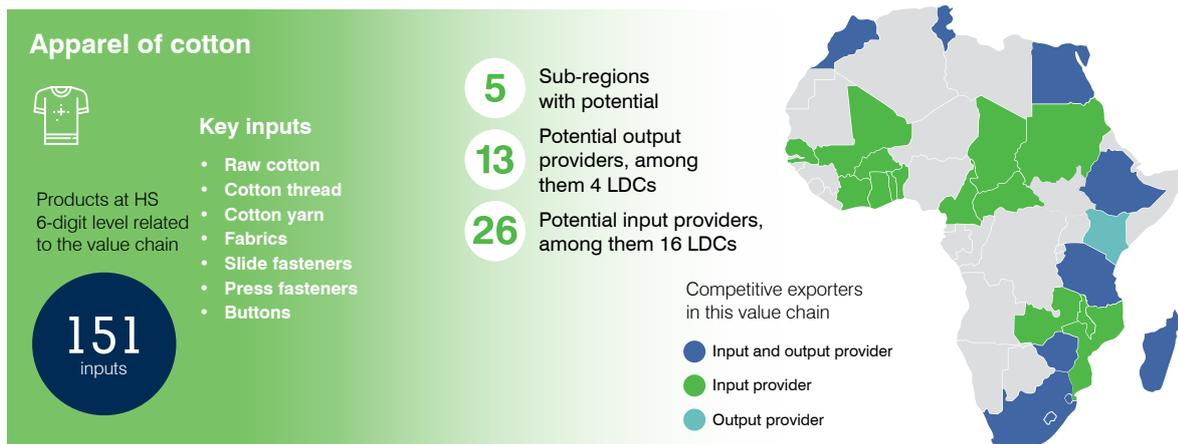
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CHAPTER 6

COTTON APPAREL: WOMEN EXCEL



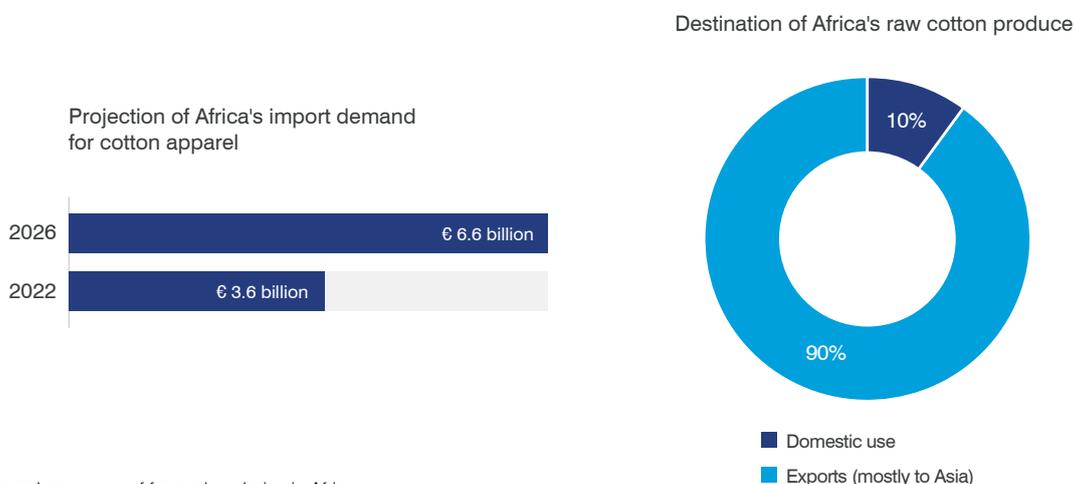
Note: The map shows potential providers of inputs that have comparative advantage or an export potential of more than \$10 million

Significant intraregional export potential to untap

Africa has the potential to export €5.8 billion of cotton garments by 2026. Almost 15% of these exports would be on the African continent.

Two-thirds of intraregional export potential in the sector have yet to be unlocked. Despite high exports and export potential, import demand is also high. This is reflected in an import value of €3.6 billion, projected to increase by 84% as of 2026 to €6.6 billion.

Figure 19 Cotton apparel import value to rise 84% by 2026



Note: Based on survey of four value chains in Africa.

Source: ITC

Africa is on the low steps of this value chain ladder

The continent is an important producer and exporter of raw cotton and is involved in the final assembly of certain textiles. However, Africa exports 90% of its raw cotton to Asia and is a net importer of cotton fabrics and yarn. African cotton apparel manufacturers import a mere 7% of cotton yarn and 6% of cotton fabric from elsewhere on the continent.

Export potential in cotton garments could increase quite a bit if intermediate steps in the value chain – such as processing of cotton into yarn and fabric – were carried out on the continent. This presents strategic investment opportunities with a view of diversifying production locations and near-shoring close to major markets, e.g. the EU, to reduce the risk of supply-chain disruptions.

Twenty-six economies, including 16 LDCs, could competitively export inputs for the cotton apparel value chain. Eleven of these countries, including four LDCs, could also competitively export outputs of the value chain, while two additional countries – Cabo Verde and Kenya – could only competitively export the outputs.

A need to enhance businesses' awareness of existing trade agreements and their impacts

More than 80% of interviewed businesses have not seen or are not aware of any impact of existing trade agreements. Still, about two-thirds are optimistic that a continental trade agreement would boost regional trade in the cotton apparel sector. About 60% of survey respondents in the industry are unaware of the AfCFTA, however, and more than 90% have never participated in any form of consultation on trade deals.

The changing dynamics of international value chains in the apparel industry and growing interest in near-shoring put Africa in a strategic position and create opportunities to develop this value chain on the continent.

Cotton apparel value chain has high job-creation potential

A study by ITC and the International Labour Organization estimates that fully realizing the export potential of cotton apparel could generate more 200,000 jobs in Egypt and upwards of 50,000 in Tunisia alone. This could especially benefit women, who represent a large part of the workforce in the sector: 73% of interviewed value chain participants across Africa employ more women than men and women lead a quarter of African cotton apparel companies.

SECTOR-SPECIFIC CHALLENGES

1. **The ‘missing middle’: few spinning mills and limited yarn and fabric production, leading to lack of vertical value chain integration.** Little refinement of cotton happens in Africa. Most raw cotton is exported to other continents for value addition and then reimported in the form of yarn and fabrics. Survey respondents cite lack of technical know-how, modern production machinery and related investments as key constraints to value addition.
2. **Competitive pressure from low-cost producers in Asia as well as informal and imported second-hand markets.** Fragmented markets that lack scale of production, in adequate investment in production technologies and modern machinery, and scarcity of qualified personnel (e.g. technicians for knitting and fabric printing) all limit the sector’s competitiveness.
3. **Lack of information on business opportunities and matching buyers and sellers.** Clothing producers tend to focus on domestic markets or manufacture apparel for brands outside the continent. Many fail to realize opportunities for intraregional trade due to limited awareness of, and participation in, market linkage activities such as trade fairs.

‘We need information on the available offer in African countries. There should be more African suppliers at our national trade fairs, but also those in Europe. We never see African suppliers there. Furthermore, there are few continental trade fairs to which we are invited. There is a real visibility problem, a lack of communication on what exists in the textile sector in Africa.’
4. **Little awareness of trade accords** (including the AfCFTA) and their possible advantages. About 60% of respondents along the value chain are unaware of the AfCFTA and almost 80% have not seen, or are unaware of, any impact of other trade agreements. For those that have been trading (or trying to trade) under preferential schemes, rules and certification of origin are a major concern, including those related to cumulation – due to lack of clarity, differing rules across agreements both within Africa and with third countries, difficulties in tracing and documenting the origin of inputs, high costs and, at times, lack of recognition of origin certification.
5. **Major environmental challenges linked to inadequate waste management, treatment and recycling systems,** including for hazardous and water waste as well as the high water use intensity of certain steps in the production process, notably textile finishing and apparel washing. Waste management appears to be especially challenging for firms located in special economic zones. Recycling infrastructure is largely absent, including for the treatment of waste related to imported second-hand clothing of lower quality.

‘We started separating textile waste, notably fabrics, according to their composition. We tried to sort this waste, but in the end it was useless – we did not find anyone to take charge of it.’
6. **Limited capacity to obtain certification against sustainability standards.** In the case of raw cotton, it is the cost of demonstrating compliance and obtaining certification, rather than compliance itself (e.g. qualifying as organic cotton), that adds to the cost. Further down the value chain, firms often lack the capacity to comply with sustainability standards and increasingly demanded traceability and ESG reporting requirements.
7. **Limited visibility of African brands both at the continental and global level** due to insufficient marketing, outreach and digital skills, and low social media and online presence.

‘Compliance with social, health and safety, environmental and ethical standards have not negatively affected our competitiveness; it brings about good practices that will enable long-term sustainability. However, the cost of certification and periodic renewal is very high. A single certificate can cost €6,800. And our clients requested us to have four...’
8. **Minimal pre- and post-production services** on offer for clients in and outside of Africa.

RECOMMENDATIONS

1. Building on successes and lessons learned from initiatives at subregional level, **create textile industry hubs across Africa**, in close proximity to main sources of natural resources, and provide common infrastructure, tools and services to encourage value-added activities. Facilitate investments in yarn spinning mills, modern machinery and technical know-how. Facilitate intra-African knowledge transfer to stimulate transformation of raw materials to higher value-added products and to make use of expertise on the continent.
2. **Improve sustainability and support the green transition:**
 - ✓ **Raise awareness on sustainability and build the capacity of textile and apparel producers**, particularly on compliance with labour standards, manufacturing practices that have less environmental impact and best practices related to ESG traceability and due diligence.
 - ✓ **Incentivize the production and use of sustainably produced cotton.** About half of Africa's cotton is already sustainably produced and labelled as preferred cotton under the Better Cotton Initiative or Cotton Made in Africa.
 - ✓ **Provide incentives to encourage investments in improved technologies and greener facilities designed to reduce the use of water and chemicals in the production of textiles and clothing** (e.g. tax advantages and access to affordable finance).
 - ✓ **Enhance the wider auxiliary infrastructure needed for greener production and circularity**, including recycling systems and infrastructure for the treatment of water and the disposal of hazardous waste.
 - ✓ **Create dedicated financial instruments to support companies, particularly MSMEs, to obtain industry-specific quality and sustainability certification** such as the Global Organic Textile Standard (GOTS), Worldwide Response Accredited Production (WRAP) and OEKO-TEX.
 - ✓ **Create awareness in major markets in Africa and beyond** on the relatively low environmental footprint of African cotton production, owing to limited use of pesticides, fertilizers and irrigation water.⁸ Promote investment in green textile production to build a green supply chain from cotton to apparel.
3. **Improve traceability systems and conformity assessment infrastructure near cotton production areas, particularly in LDCs** to improve the transparency and hence the predictability of the time and cost of the certification process, and try to reduce it, where possible.
4. **Improve the continent-wide availability of industry-specific information, especially on regional suppliers.** Company contact information in tools such as the Global Trade Helpdesk could serve as the basis for this, and possibly be expanded to improve the coverage.
5. **Intensify efforts to create business networks across countries and subregions** through business-to-business exchanges and trade fairs. Raise awareness on continental trade fairs such as Origin Africa, and facilitate the participation of smaller firms in them, e.g. through cost-sharing models and preparatory guidance on buyer-seller meetings and follow-up processes.
6. **Strengthen the business support infrastructure for value chain participants** by providing necessary support to regional business associations on market intelligence, market studies, trade fairs, identification of business opportunities and partners, and awareness and guidance on trade-related intelligence available through the African Trade Observatory or other information sources.

In addition, at the national level:

7. **Critically review the legislation related to imported second-hand clothing** to reduce environmental and health challenges associated with low-quality imports (up to 90% reportedly end up as waste). This could be done through import restrictions; effective enforcement of quality standards, documentation and traceability requirements; cooperation with exporting countries to limit shipments of unsuitable used products; and support for creating innovative business lines focused on recycling second-hand clothing by adding value in the production process.

Exchange best practices with other countries how to deal with second-hand clothing in the light of both the competitive pressure it puts on domestic producers and the limited purchasing power that is driving the demand for such clothing.

8. **Increase the international competitiveness of MSMEs in the textile and clothing sector by building know-how and skills on pre-production and post-production activities** required to serve African and non-African clients. This should be done in collaboration with both African and Western brands and retailers that are keen to source from Africa.
9. **Establish and financially support dual training programmes**, combining vocational school training or university studies with hands-on experiences in companies, to enhance the availability of qualified and specialized personnel. In particular, include managerial and business skills, e.g. related to lean manufacturing, material sourcing, product development and design, market analysis, business strategy and market segmentation, marketing, digital skills, online and social media presence, e-commerce and logistics management, as an integral part in such training programmes.

Increase the availability of dedicated courses on such topics for entrepreneurs. Create or strengthen linkages between academia and the textile and clothing industry to ensure that curricula and learning approaches are aligned to the needs of the industry.



Returning Angola to the heart of textiles

Angola is trying to recapture its former position as a leading African textile producer.

Daniel Pires has high ambitions for Angola's fashion industry. From his base in Luanda, he is working to develop a clothing factory using exclusively African inputs and original local designs.

Daniel Pires

Fashion entrepreneur

Tussole Business Center, Angola

'We want to build a solid local value chain,' he says. 'We have good fashion stylists in Angola, and we have found high-quality suppliers in Africa. We are negotiating with Ugandan organic cotton producers and other African garment, yarn and textiles suppliers.'

It hasn't been easy, especially with many countries still struggling to recover from the pandemic. The sluggish economic recovery has slowed talks with potential investors, says Pires, who envisions his factory eventually producing a million garments a year. 'Today, even the samakaka, a traditional Angolan fabric, is produced outside the country due to the absence of factories to do it here. This reality must change,' he says.

Working towards 100% 'made by Africa'

Pires says his plant on the outskirts of Luanda will start to produce 100% 'Made in Africa' T-shirts and polo shirts by the end of the year. That will trigger an influx of investors, he predicts.

But his plans don't stop there. Pires eventually hopes to succeed on a national scale by building a network of 18 clothing factories, using Angolan cotton and locally produced fabrics. Developing the capacity of the workforce is crucial for the sustainable future of the textile industry – and the success of his factory network – so he plans to offer training for workers and potential managers outside the country's capital.

One reason Angola has few textile plants is that local banks are reluctant to offer credit to small entrepreneurs, Pires says. 'Even with a solid business plan, it is very difficult to access financing and investment,' he explains. 'It is also extremely difficult to meet collateral requirements. Unfortunately, there is a lack of credit policies for small companies and family-owned businesses.'

Angola used to be one of the biggest cotton producers in Africa. The country's cotton fields were devastated during its decades-long civil war and today, its textile and apparel industry depends largely on raw materials from Asia or Europe.

Yet the textile industry is experiencing something of a rebirth. Three textile factories have an installed capacity to produce more than 10 million metres of fabric and 18 million garments per year, and the Angolan government is working to attract private investment to the sector.

These three plants produce tablecloths, sheets, pants, shirts and, especially, uniforms for the government. While Pires sees this as a good starting point, he believes fashion entrepreneurs in Angola should aim higher.

'I am quite optimistic. I believe in the potential of Angola and its African partners. Our sector has a lot of willpower to unite and integrate. We have the potential to become a big player in the textile industry again.'





Giving a second life to clothes and fabrics

Second-hand clothing and textile discards are recycled and transformed as part of the 'repair culture' in Mauritius.

Meenakshee Kuntz does much more than simply sell used shirts, skirts and socks at her second-hand clothing stores in Mauritius. She subscribes fully to the proverb that 'one (wo)man's trash is another (wo)man's treasure' and works towards zero waste.

Meenakshee Kuntz

Owner, The Good Shop

Mauritius

The global textile industry has a great impact on the environment, with production responsible for greenhouse gas emissions, landfill and an estimated 20% of water pollution (European Parliament, 2020). That's why environmental recycling is one of the three goals of Kuntz's business model – the other two being workforce inclusiveness and supporting education in the local communities.

'We are the biggest platform of donated clothes sorting and processing on the island,' says Kuntz, who works with about 50 non-governmental organizations. 'We believe in saving natural resources. What others see as "waste" we see as "resources". We want to showcase that it is possible to create locally made textile pieces by reusing leftover materials.'

Promoting a circular economy, building skills, reducing imports

She also points out another advantage of investing in second-hand textiles: 'Transforming waste into new raw material and recycling goods allow us to be less dependent on imports.'

Inspired by second-hand shops such as Emmaus in France, her company The Good Shop sells donated clothes via two stores. This pillar of the company's activity is also one of the major challenges, as supply flows depend on the availability of donors. Another issue is that many articles are not in good condition – an obstacle that prompted Kuntz to innovate and develop a new approach.

'From specialists in donations, we became specialists in transformation. We started repairing donations (garments or furniture) that could not be sold as is,' she explained. This transformation involves dismantling textile waste or donations, classifying them into different categories and then creating new items 'with material not extracted from nature'.

'We have created repair stations in our shops and soon in business parks and offices,' she adds. 'We are proud to promote the "repair culture" in Mauritius by involving the community.'

Finding trained staff to carry out these tasks has been challenging. 'It takes a lot of time and resources to counsel, upskill, enhance and maintain high standards while we also need to show productivity, quality and performance to keep our model sustainable,' Kuntz says. To support the local communities, the companies hires and trains people who are struggling to find jobs, such as men and women with disabilities and workers without formal education. The shops also use part of their revenues to fund scholarships for children.

Thanks to these two shops, some 7,500 items re-enter the economy every month. Kuntz hopes to reach 10,000 a month by the end of 2022. Since the company was created in 2018, it has extended the useful life of more than 120,000 products, including clothes and other textiles as well as furniture and house decor items. 'We have made our circular economy model evolve,' building an ecosystem of 'vision and value-aligned entities focused on environmental transformation change' and helping to build innovative local value chains, Kuntz says.

It's a model that others can replicate as 'there is room for more', she adds.





Investing in local fashion is investing in the future

Fashion is Africa's future, says a young Ghanaian designer who focuses on traditional fabrics and sustainability.

It's time for Africans to invest in locally produced fashion instead of importing cheap foreign textiles, says Elliot Lartey, founder and creative director of Accra-based Two Cedi. Small textile businesses in Africa can be both sustainable and green, he says, but 'we need more support and investment'.

Elliot Lartey

Founder, Two Cedi

Ghana

After finishing his fashion school studies, creating his own brand was a natural career step for Lartey. He wanted to build a business to put African fashion in the spotlight by combining traditional fabrics, urban fashion trends and environmental concerns. 'At first, I used second-hand textiles from the United States and Europe,' he says. 'I also searched for materials and inputs in dump clothing fields, notably denim, to recycle.'

Today, the nine-year-old Ghanaian fashion brand mixes recycled and new sustainable inputs. 'We are always adapting to new market trends. Our creative team always comes up with new ideas and materials.'

To keep Two Cedi sustainable, Lartey mainly sources goods from local and African suppliers, such as wax prints from neighbouring countries Senegal and Niger. 'Our consumers are proud to use original clothing and accessories made in Ghana. To know that everything is produced locally, handmade and is environmentally friendly makes a huge difference when selling here or when exporting,' he says.

Entrepreneurs need support to access credit

About half of Two Cedi's production is exported via its e-commerce platform and its main foreign markets are the United States, the United Kingdom, South Africa, Germany and France. 'We rely a lot on the Ghanese diaspora. Our presence at cultural events in Europe also helps increase our exports. We would love to export more to African countries but, unfortunately, shipping our products to Germany is easier and cheaper than to Nigeria.'

Like many other young African entrepreneurs, Lartey finds it difficult to access credit. He began Two Cedi with his own capital and money from friends who also helped him design a business plan. And despite the brand's success, he's now having trouble finding the investment he needs to expand – primarily because of the COVID-19 pandemic.

'We had solid plans until COVID-19 came along,' he explained. 'But because of the uncertainties it generated, we had to slow down our plans. Access to credit became more difficult, and many investors are not interested in local businesses. This is a huge problem, as the post-COVID production costs skyrocketed. The price is five times higher for some items, such as zippers.'

Still, Lartey has not given up on his dream of boosting both exports and the scale of production – and training local youth. 'Fashion schools are too expensive in Ghana. We need to offer young talents a chance, teach them new skills. I am convinced that fashion is the future for Africa.'





CHAPTER 7

BABY FOOD: A NUTRITIOUS START

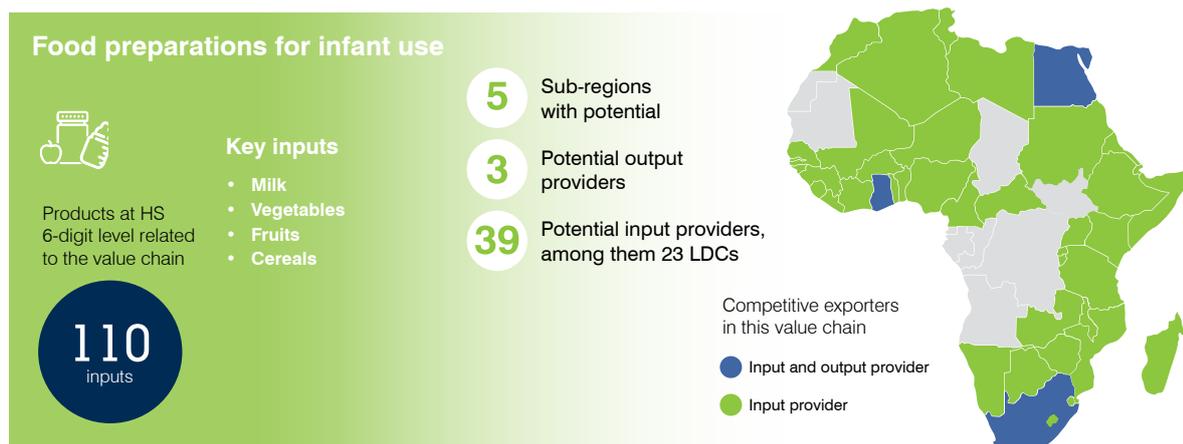
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CHAPTER 7

BABY FOOD: A NUTRITIOUS START



Note: The map shows potential providers of inputs that have comparative advantage or an export potential of more than \$10 million

A growing market for infant foods

Africa imports €570 million of food preparations for infant use every year, and this figure is projected to exceed €1.1 billion by 2026. This expected demand growth offers important investment opportunities in the infant food value chain in Africa.

Imports of baby food are 10 times higher than exports. At the same time, the continent has an abundance of fruits and vegetables, cereals, pulses and other ingredients used in infant food preparations, which are often exported without transformation.

The few companies that produce infant food in Africa source just 16% of their inputs from African producers. With 39 competitive input providers and an export value of €14 billion of untransformed products at the continental level, developing this value chain appears promising for investors, producers and consumers.

Besides reducing import dependency and increasing local value addition, strengthening the value chain at the continental level could generate opportunities for MSMEs and women, whose participation in the sector is high.

Thirty-nine countries, including 23 LDCs, competitively export inputs used in the manufacture of infant food. Three of them – Egypt, Ghana and South Africa – are competitive exporters of infant food.

IMPORTANT NOTE:

In this chapter, food preparations for infant use refer to food for children under the age of 3. Recommendations in this chapter are meant to support the regional production of baby food that is given to supplement, not replace, breastfeeding (unless breastfeeding is not or no longer possible). According to the World Health Organization, breastfeeding within the first hour of birth, followed by exclusive breastfeeding for six months and continued breastfeeding for up to two years or beyond, offers a powerful line of defence against all forms of child malnutrition.

Challenges and recommendations in this chapter deliberately focus on the food processing step in the value chain, i.e. on the production of the finished, value-added product. They do not tackle the important issues, related to the production of agricultural inputs, such as productivity, quality of agricultural produce, issues related to post-harvest losses etc.

Belief in potential to develop regional value chain

Interviewed baby food producers confirm the messages from the data: nearly 80% are optimistic about the potential to develop the baby food value chain in Africa. This is due to the growing demand and taste preference for infant food made using locally available ingredients not easily found outside of Africa and for products that can cater to the specific needs of African children, for instance, in terms of nutritive content, e.g. to fight malnutrition.

Focus on domestic market

Most companies (65%) focus solely on the domestic market, both for sourcing and selling. If companies export at all, they tend to do so within Africa. Only 20% of firms generate sales beyond the continent, often through personal networks (friends and family members abroad) rather than commercial channels.

Sourcing from other countries is usually limited to ingredients not available locally for which no alternatives exist, such as vitamins, minerals, dextrose or lactose, as well as machinery and packaging materials. Given their domestic orientation, it is unsurprising that few companies said they had benefited from (or were aware of benefits of) trade agreements or of the AfCFTA.

Most baby food companies are small and women-led

Almost two-thirds (65%) of interviewed companies are managed or owned by a woman, markedly higher than in the other three pilot value chains. Female employees make up more than half of the workforce for most of these businesses.

SECTOR-SPECIFIC CHALLENGES

1. **Very weak trade participation** due to insufficient information on the availability of inputs, market demand and trade procedures, as well as:

- ✓ **On the export side: Limited production capacity.** Most firms cannot meet domestic demand, let alone expand abroad, because they cannot access finance for the machinery and technology needed to produce infant food, e.g. for dehydration, for specialized packaging and for obtaining recognized certifications against the standards as demanded by export markets.

In addition, lengthy export procedures due to export licensing, product registration requirements and inefficient customs clearance are major trade barriers, given the relatively short shelf life of baby foods.

- ✓ **On the import side: High cost and unreliability of transport logistics and quality concerns.** The former includes customs clearance processes and the latter includes a lack of quality inputs due to aflatoxin contamination and a lack of trust as a result. These challenges make sourcing from abroad, particularly of perishable inputs, unviable, especially given the small scale of production today.

Most (86%) of interviewed companies report facing constraints when sourcing inputs and many say sourcing would be even more difficult if it involved crossing borders. Yet, diversifying the supplier base, whether local or international, could help mitigate the problems posed by seasonality of inputs and related price fluctuations.

'Expiry dates for baby food products are either 18 or 24 months. Pharmacies do not accept products with less than 12 months of expiry. It takes about 4 months to get the product to the market given the quality checks and time of shipment. So when arriving, products have at best only 14 or 20 months left before expiring, leaving 2 to maximum 8 months to sell them in pharmacies.'

'Cost of importing machinery for production is high and subject to both official and unofficial expenses at customs.'

2. **Little specialized machinery and equipment in Africa** and dependence on imports from other continents as a result. The cost to import such equipment, including duties and taxes, inspection, shipping and installation, can be significant and often unaffordable, particularly for smaller companies.
3. **Limited trust in local brands.** Demand for local brands is growing, yet companies say many Africans believe that baby food products from other continents, especially Europe, are better quality and more reliable. This lessens the attractiveness of local brands, even when they comply with high standards of production and are certified.

4. **Limited access to accredited laboratories and testing facilities, and high cost of testing.**

Efficient and reliable quality and conformity assessment is crucial for all value chains, but especially vital to ensure and signal the safety of food preparations for infants and young children. In Africa, the sector is highly exposed due to weak conformity assessment systems in many countries; lack of regional harmonization of standards and regulations (regarding shelf life, packaging and labelling) and no mutual recognition of certifications.

'The laboratory lacks major quality-assurance parameters to test raw, intermediate and finished goods in line with market requirements.'

'The food composition analysis as required by the regulator is very expensive. Hence some nutrients and related values, e.g. vitamin A or zinc, are not reflected on the label yet.'

'Complying with labelling regulations is expensive. Companies have to pay €1,000 every six months to get a stamp issued by the authorities. They must also have certification from the standards body that the products are export-compliant (i.e. that they are not toxic). This certification costs €4,000 per year.'

5. **Lack of recognition as a sector.** Despite the importance of the sector in terms of growth potential, female employment and firm leadership, as well as its contribution to fighting malnutrition in children, baby food producers note a lack of political attention, dedicated policies and support to develop, finance or invest in the sector. They also report the absence of sector-specific business associations to back baby food manufacturers.

6. **Limited access to finance, particularly for women-led companies.**

Access to affordable finance, the high cost of loans and persisting gender bias in the process is commonly reported across all pilot value chains. However, the baby food sector is heavily affected given the strong presence of women as company owners and managers.

'If I need finance for my business, sometimes I have to show my marriage certificate! Accessing funds and entering business is a big challenge for women.'

7. **Lack of affordable, safe and eco-friendly/recyclable packaging.**

The availability of innovative packaging material is limited locally and sourcing it from abroad is expensive. Waste management systems are inadequate and there are few recycling facilities for used packaging material, particularly plastics.

'One day, I would like my packaging to be compostable, as I am still sending a lot of plastic into the world.'

8. **Few sector experts.** Hiring and retaining skilled professionals such as nutritionists, food scientists, quality controllers and engineers is a challenge, particularly for micro and small baby food makers. Value chain participants say there are few practical training opportunities for entrepreneurs and workers on quality requirements and best practices for processing food, as well as basic business skills, such as marketing and accounting.

'Our technical teams require intensive training on different technical skills and food-processing technology.'

RECOMMENDATIONS

To unlock the development potential of the baby food value chain, the cross-sectoral recommendations in the preceding sections related to quality and conformity assessment infrastructure, access to finance, transport and logistics, and customs clearance processes are key. In addition and specific to the sector, it is recommended to:

1. **Craft a strategy to develop the sector at both national and regional levels.** Careful consideration should be given to all relevant aspects, including the need to better inform consumers about the benefits of breastfeeding and to prevent aggressive marketing seeking to discourage breastfeeding (in line with the International Code of Marketing of Breast-milk Substitutes). The strategy should aim to develop and the value chain to complement the diets of infants and young children where needed. Baby food should be considered as a separate sector in trade strategies.
2. **Create sector-specific associations that can offer tailored support to small and medium-sized baby food manufacturers** and women-led companies, e.g. through advocacy and capacity building. Connect associations across countries to support information sharing and best practices, exchange of experiences and business linkages across borders.
3. **Invest along the value chain**, notably:
 - ✓ *At the level of agricultural input production:* Invest in equipment and training to ensure high-quality production in line with food-safety regulations, international standards and best practices and related internationally recognized certifications such as Good Agricultural Practices and hazard analysis and critical control points. Promote and train on sustainable farming practices and the production of organic foods.
 - ✓ *At the level of food processing:* Support access to machinery such as corn mill machines, grinding machines or dehydration equipment, and related operational know-how that companies need to automate manufacturing and scale production. Facilitate cooperation between businesses and universities to advance R&D, including on new recipes and optimized nutritive content and sustainable packaging solutions as well as production techniques with minimum water use and food or other material waste. Invest in the supply of adequate packaging for baby food products.
 - ✓ *At the national level:* Invest in waste management systems and recycling infrastructure (e.g. for the disposal and recycling of packaging material). Disincentivize the use of non-recyclable packaging materials. Improve the availability of adequate storing and transport facilities for perishable goods, including cooling facilities at customs.
 - ✓ *At the continental level:* Assess the feasibility to develop further the production of machinery needed in the agricultural and food processing sector (value chain development) to reduce dependency on imports from other continents and the high cost associated with them.
4. **Improve the availability of timely information** about, and awareness of, high-quality (certified) inputs across the continent, to facilitate sourcing across borders. Improve the availability or coverage of price-monitoring tools and increase awareness of critical market information such as labelling and packaging requirements in the private sector as available, for example, through the African Trade Observatory.
5. **Support and reinforce the efforts made at the continental level and across sectors to harmonize standards and recognize conformity assessment certifications** in Africa. In the case of baby food, key standards relate to product registrations, licensing requirements for companies, packaging, labelling and the tolerance limits for contaminants.



From techie to baby food 'mom-in-chief'

More and more Nigerians want to feed their infants natural, authentic foods adapted to their eating habits.

Seun Sangoleye was working as a computer scientist when she discovered that her infant son wouldn't eat imported baby formula and other processed foods. So she started an infant food company called BabyGrubz that uses natural local ingredients and offers foods based on traditional Nigerian recipes.

Seun Sangoleye

Chief executive officer, BabyGrubz

Nigeria

'I had no background in cooking, but I always was a foodie,' she says, adding that other mothers told her their babies were also snubbing imported formula. 'And I wanted my son and other children in my country to have access to our home-grown food that is so rich in flavours and nutrients.'

She started by offering recipes and nutrition tips on social media. The popularity of this spontaneous word-of-mouth marketing encouraged her to launch her own baby food brand. In less than a decade, Sangoleye has become a successful entrepreneur who prefers to call herself mom-in-chief rather than chief executive officer.

Infrastructure: Top barrier

'My brand uses rice, sweet potatoes, fish, beans and other local products – 100% of our ingredients are produced and processed in Nigeria,' she says.

BabyGrubz produces two tons monthly and aims to reach 20 tons a month by 2025. 'We want to increase our participation in the domestic market. We also would like to export to neighbouring countries as we have received many requests, notably from Togo,' Sangoleye says. 'We want to become an African-based multinational company.'

Scaling up production is tricky, however, with infrastructural problems the top barrier to expansion. 'The logistics to transport the products throughout the country is very challenging. We also must deal with power shortages. To avoid interrupting production, we use diesel-powered generators, which increases our costs.'

And like so many African entrepreneurs, Sangoleye also has problems obtaining funding to buy better machinery and equipment. 'Financial support is an issue, but those funding needs would be significantly lower if we had better infrastructure and fewer taxes,' she notes. COVID-19 also had an impact on BabyGrubz, which had to downsize and dismiss workers during the pandemic. But as the company continues to recover, plans are in the works to hire more employees in the coming months – especially women, who represent 95% of her staff.

Sangoleye is optimistic about her company's prospects and ability to innovate. 'One of our strengths is our capacity to anticipate consumer trends and offer to our public exactly what they need. We have a strong market research and innovation team. We also have access to high-quality raw materials, which helped us develop a line adapted for premature babies and lines with reinforced vitamins to tackle malnutrition.'

She's also hopeful that the African Continental Free Trade Area will bring benefits to BabyGrubz. 'I would love to sell my product in South Africa, Ghana and Kenya, for instance,' she says. 'And I would love to have better networking with suppliers from Niger, as I am interested in using dates from this country in my recipes. I believe this trade agreement can be a game changer to boost cross-border transactions.'





Baby food makers: 'We have gold in our hands'

Demand is growing for locally produced baby foods with African ingredients and recipes.

The absence of infant cereals in Cameroon prompted Pascaline Nenda to create her own baby food company in 2013, based on local flavours and ingredients. She says African baby food makers have an edge over foreign producers because they understand local eating habits and are less expensive than imported baby foods.

Pascaline Nenda

Owner, Lemana

Cameroon

'We have an advantage that products imported from other continents do not have,' Nenda says. 'We already have gold in our hands. On the African continent, we have diversified gluten-free digestive flours. I also wanted to reduce reliance on imports of instant cereals. These imported products are very expensive when we consider the purchasing power of rural and vulnerable populations in Cameroon.'

Her company's Blesolac instant cereals use a mix of soya-based raw materials made in Cameroon. The entire manufacturing process happens domestically. While the cereals also contain imported wheat and powder milk, Nenda is trying to forge commercial ties with African milk exporters. She is also gradually increasing the share of inputs supplied by Cameroonian or African partners, which could reduce costs for consumers.

'Demand for such products is growing,' Nenda says. 'Many consumers in African countries understand that consuming locally is very important. It creates jobs while keeping the added value local.'

The value of African ingredients and recipes

Nenda attended food-processing classes to improve the quality of her cereals. The training also sparked new ideas, such as replacing cow milk with soy milk and developing innovative production methods to use sugar from dates grown in north Cameroon. She recently launched a fruit puree line using locally produced mangoes, papaya and bananas.

She has faced her share of obstacles – especially in terms of accessing credit. 'In Cameroon, the small entrepreneur fights alone. My company needs more sophisticated machinery to respond to market demands and face competition from imported labels. We must encourage banks to finance companies with potential in the sector.'

The African Continental Free Trade Area creates opportunities for business owners across the continent, says Nenda, who expects her own company to benefit from the boost in trade and removal of barriers that the trade agreement promises.

'We must make free trade between countries completely available and easy,' she says. 'For example, my product, which sells for 1,000 FCFA (\$1.50) in Cameroon, is sold at a higher price in Congo because of tariffs and the cost of transport, which ultimately increases the final selling price.'

The popularity of the company's line of Blesolac cereals among African consumers feeds Nenda's enthusiasm to invest in 'made in Africa' food processing. She believes there is room for a change in the markets' mindset. 'We have the opportunity not only to vary our children's diet, but also to promote a new education in terms of infant food.'

Nenda would like to see more women entrepreneurs invest in their ideas, saying it is unfortunate that 'few women dare'. In Cameroon, she adds, training and support could create a new generation of women-led baby food companies.





CHAPTER 8

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CHAPTER 8

EMPOWERING WOMEN TO TRADE

Better data will boost inclusivity

The AfCFTA offers an excellent opportunity to boost the role of women in the African economy. Women have lower levels of employment in the formal economy and leadership in business, even though their participation in the informal economy is significant.

The data on women's participation in the African economy is limited – be it in the formal or informal sector. Adequate and systematic gender-disaggregated data are essential for governments and BSOs to monitor women's progress and bring visibility to their concerns.

To address this gap, ITC systematically collects data on women's employment and leadership in business as part of its business surveys. This includes the two survey initiatives that serve as the basis for this report: (i) the representative surveys of exporters and importers on NTM-related trade obstacles offering insights on the participation of women in trade and (ii) the dedicated survey of businesses along the four pilot value chains (including trading and non-trading companies).

Women's participation in trade

Results from NTM Business Surveys in 22 African countries, which cover almost 10,000 businesses and are representative by export sector, show low participation of women in businesses engaged in cross-border trade. On average, women make up 28% of the workforce of trading firms.

There are, however, notable variations across countries and regions. For example, 23% of the companies in North Africa employ more women than men, compared with 33% in East Africa and 57% in Southern Africa. There are also strong variations across sectors, with very high female employment rates in firms that trade clothing and textiles versus much lower rates in chemicals or transport equipment.

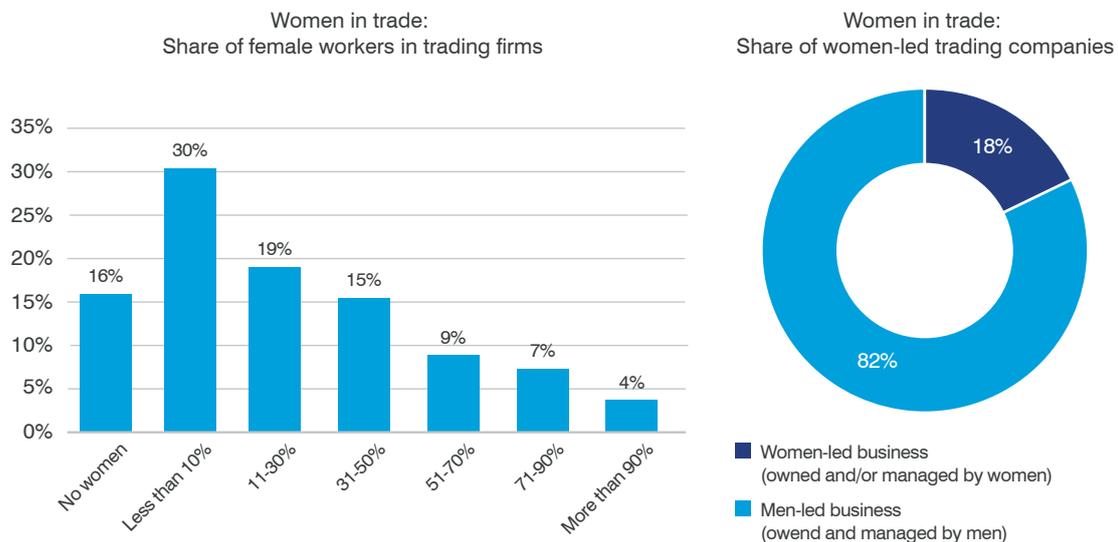
Across the continent, 16% of exporters and importers do not employ a single woman and in 30% of the firms, less than 1 in 10 employees are women. At the other extreme, 4% of the companies have an almost all-female workforce (with more than 90% of the workforce being female).

Women own or manage only 18% of African trading firms

Women's entrepreneurship also varies considerably within and across regions. At the continental level, just 18% of the trading firms are women-led – that is, either owned or managed by a woman. Women's entrepreneurship is highest in Southern African countries (36%), followed by East Africa (23%) and North Africa (18%). Women-owned and managed trading firms are most rarely encountered in West Africa (15%), where in some countries, the share of women-led firms is as low as 6% or even 3%.

Few women work in the automotive value chain, many in apparel and baby food

Figure 20 Women are still underrepresented in African businesses



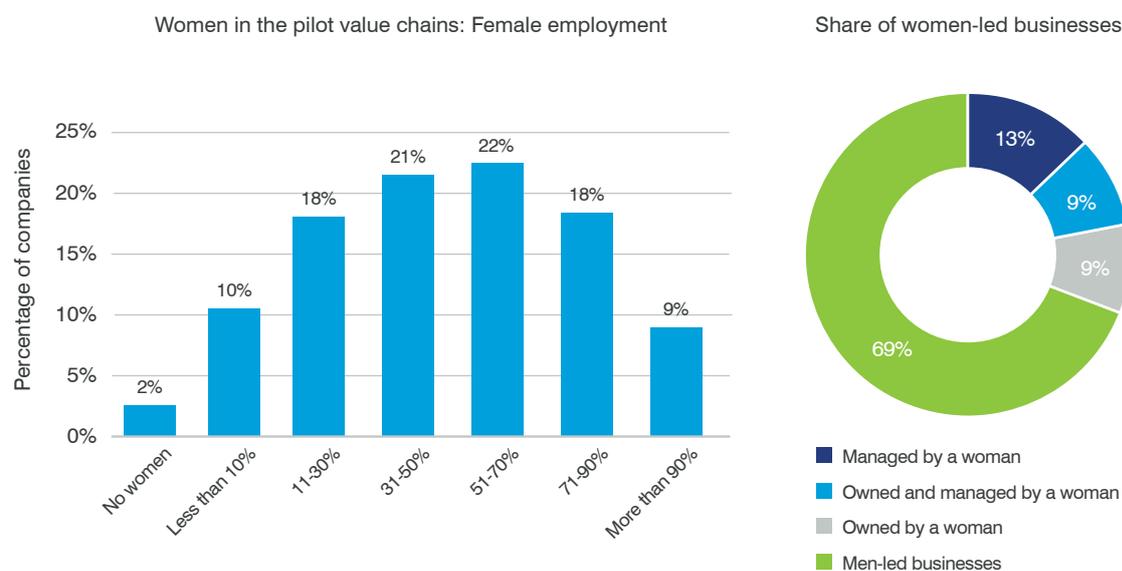
Source: ITC NTM Business Surveys in Africa

Looking at the businesses interviewed along the four pilot chains, which include both trading and non-trading companies, the median company's workforce is 40%–50% female. In 12% of firms, fewer than 10% of employees are female, with 2% of the companies employing no women at all. The sectors of focus strongly influence the results, which are likely to change when additional value chains are added to the diagnostic.

Employment of women is especially low in the automotive value chain. While companies in this sector are known to be large employers, the number of female workers is markedly lower than in the other sectors. For one-third of the interviewed firms along the automotive value chain, fewer than 10% of workers are female – with 7% of them employing no women at all.

In contrast, the cotton apparel value chain has a large female workforce. More than 73% of the firms in this sector employ more women than men. On average 63% of the workforce in the apparel sector is female. Likewise, women represent about half of the workforce in the food and pharmaceutical value chains.

In terms of ownership or management, men largely dominate African businesses in the four pilot value chains. Women own or manage only 30% of the surveyed businesses. In the automotive sector, almost 90% of the businesses are exclusively men-led with both the owner (or majority of owners for larger companies) and manager being men. Among the four sectors, the baby food sector stands out with 65% of the companies being women-led.

Figure 21 Women along the four pilot value chains

Source: ITC Survey of four value chains in Africa

Women face legal constraints, cultural biases

The ITC business surveys document that women are generally underrepresented in African firms, both as employees and as business leaders. It is therefore important to make the AfCFTA work for women and to pay specific attention to inclusiveness when it comes to developing continental value chains. The conclusion of the AfCFTA and the current design of implementation strategies offer an opportunity by giving new momentum to addressing old challenges.

**What is not measured is invisible. What is invisible is lost.
What is lost cannot be acted on or remedied.**

At the outset, this requires a (more) systematic data collection and monitoring of basic indicators on female employment, the share of women-led businesses in the targeted value chains and their participation in capacity building and other support programmes. This means, that any strategy on value chain development and integration across countries should foresee data collection and the design of indicators and targets related to the participation of women in value chains.

Stakeholders suggest ways to increase female participation in value chains

When asked how to increase the participation of women in value chains in Africa, businesses, BSOs, industry experts and other stakeholders suggested the following:

Eliminate legal constraints: Globally, 90% of countries (and most African countries) have at least one law impeding women's economic opportunities. These include restrictions on the right to work, opening a bank account or owning assets. The legal impunity creates additional business costs for women.⁹

Improve access to finance: Cultural biases and limited asset ownership rights lead to significant constraints for women to get bank loans and other sources of finance to start and run businesses successfully. Along the four pilot value chains, 72% of women-led businesses report facing constraints accessing financing and investment compared with 52% of men-led businesses.

As a result, women-led firms tend to be smaller than men-led companies (this is also confirmed by ITC's survey work), less capital-intensive,¹⁰ and less likely to engage in international trade. They often remain informal, have limited access to legal protection, and hence their growth potential and integration into formal value chains is restricted.¹¹

Government-backed initiatives for women entrepreneurs to access affordable financing can open up opportunities for many who, in most cases, are unable to accumulate capital on their own. Introducing or expanding guarantee schemes for short-term pre-shipment loans and sales order advances could address the persisting gender bias in granting loans. These financial instruments should be equally accessible for women and men, taking into consideration the potential gender differences (like those related to asset ownership rights) in the design stages.

Tackling cultural biases: Women's participation in the economy in general, and in leadership positions in particular, is hampered by the expectation in most societies that they are responsible for taking care of the family and unpaid domestic work and by stereotypes about women's limited ability to hold senior positions and lead businesses. Telling success stories of women-led firms will contribute to making women more visible and more accepted as business leaders while serving as inspiration for girls and young women.

Increasing the participation of women in business networks, including through dedicated women's business associations and better inclusion of women-led firms in sector associations and chambers of commerce: Women are less likely than men to belong to formal business networks. As business networks offer training, information, advice, market linkages, partnerships and policy advocacy, as well as encouragement and support, they play an enabling role in sustaining business success and growth.

Figure 22 Women struggle to access finance



Source: ITC survey of four value chains in Africa.

Creating or strengthening dedicated associations for women entrepreneurs and their connection across countries can help mitigate the underrepresentation of women in business networks and improve gender-sensitive advocacy at the policy level. Women-led MSMEs should also be given more opportunities and assistance to participate in regional platforms such as trade fairs to help them identify business opportunities under the AfCFTA.

Implementing targeted education and vocational training programmes: Educational systems shape gender norms in important ways, and schools and universities do not always offer girls an enabling learning environment. Many respondents pointed to the importance of the right skill set to succeed in business. This is true in general, but is perceived as more challenging for women. Indeed, research suggests that the disconnect between education and the skills needed for private sector jobs affects women more than men.¹²

A critical review of education policies, vocational training programmes and facilities may be needed to assess and minimize disadvantages of women in accessing business-relevant skills sets. Targeted capacity building of women entrepreneurs is also essential for them to enhance their business acumen, expand and promote their businesses, and use the benefits arising from the AfCFTA, modern technology and e-commerce.

Sourcing more from women vendors through public procurement at national and regional levels: Accessing the public procurement market remains a challenge for women entrepreneurs that greatly affects their business opportunities, particularly in sectors where public buyers play a dominant role, such as pharmaceuticals. A study of women-led businesses in Uganda, for example, shows that only one-third of women-led firms involved in trade in manufactured goods have ever participated in a public procurement process.¹³

Improving transparency, embracing online procurement, targeted capacity building and provisions on privileging sourcing from MSMEs can help increase the participation of women in procurement processes.





CHAPTER 9

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CHAPTER 9

A 360° APPROACH TO SUPPORT VALUE CHAINS

Value chain diagnostic is a starting point

The value chain diagnostic, analysis of challenges and recommendations are a first step to facilitate policy discussions and guide strategy, project design and investment decisions at the continental, subregional and national levels. Early results of the diagnostic informed the sector focus of the 7th EU-Africa Business Forum in February 2022, and recommendations fed into the EU-Africa Summit business declaration.

Final results of the diagnostic were presented in July 2022 on the margins of the African Union Specialized Technical Committee on Finance, Monetary Affairs, Economic Planning and Integration session in Lusaka. They were officially launched in November 2022 at the African Union Extraordinary Summit on industrialization and economic diversification in Niamey. Results are also being used to design technical assistance projects and feed into the AUC-led inter-agency steering committee on value chains.

To support the development of innovative and sustainable value chains at continental scale in Africa, the diagnostic presented in this report should be followed by a holistic action plan seeking to create the ecosystem needed for further integration, and covering the following three axes:

1. Define a continental strategy to develop the promising value chains and translate it into regional and national contexts.
2. Create an enabling environment for value chain development and integration on the continent by intensifying efforts to address the cross-sectoral challenges.
3. Provide evidence on sector-specific challenges and recommendations for additional value chains among the 94 promising and feasible value chains identified for the continent.

‘What support is needed to develop for us to do more business in Africa? It is not a question of one specific support but rather the creation of a whole ecosystem. Everything else will follow.’

- Automotive manufacturer

Shaping a continental strategy

Most strategies to develop value chains – including for the pilot value chains this report targets – have been developed at national or subregional levels. To unlock the potential of value chain development and further trade integration in Africa, a continental roadmap is needed for each of the promising value chains. This roadmap must leverage the contributions of actors and stakeholders at the national, regional and continental levels, each with its own specific mandate, agenda and scope for action.

Each value chain development strategy should spell out the vision for the sector (e.g. which type of automotive industry for Africa – see recommendation 1 for the automotive sector), the subregions and countries affected, as well as concrete actions guided by a 360° approach defined by the following focus areas:

Transparency and awareness raising for businesses, BSOs and policymakers on business opportunities on the continent along the selected value chains, market access conditions for inputs and outputs, and procedures to export, import or prove compliance with market requirements.

Trade policy and regulatory framework, which is particularly relevant to the development of quality infrastructure supporting quality certification as well as to sector-specific non-tariff trade barriers, efficient and reliable logistic chains along trade corridors, and demand and supply matching.

Industrial policy and regulatory framework, especially on the interface between regional and continental policies. It should highlight aspects of domestic (national) legislation and policy that might strongly influence the participation of input suppliers and output producers in the value chain.

Decent work, including skills development, with examples of concrete education and training programmes to support the selected value chains.

Environmental sustainability and greener value chains.

Public and private investments, including investment in the conformity assessment infrastructure and guarantees to overcome high loan costs. Also, investment at national level to support access to machinery and technology, improve waste management or energy efficiency, incentivize the refinement of raw/unprocessed products with a focus on key inputs needed for the selected value chains, and other investment addressing inclusive growth and sustainable development.

Continental value chain development roadmaps should take account of sectoral and commodity-specific roadmaps and build on subregional and national strategies or programmes to maximize impact and overcome fragmentation of efforts.

The African Union has a central role to play in steering this process, in partnership with and with the support of regional economic commissions and individual member states.

Translating recommendations into action

Under the second axis, the action plan should address the cross-cutting challenges to continental value chain integration, with a bearing on all sectors and countries. Possible areas of intervention include:

Raising awareness: Informing African firms about the continental and regional trade agreements and their implications. Building the capacity of firms to trade under these agreements and offering transparency tools to map market access conditions and compare them across agreements. Building the capacity of businesses and BSOs to navigate differing provisions (e.g. rules of origin) between overlapping agreements (e.g. AfCFTA and regional agreements).

Connecting buyers and sellers on the continent: Creating an online database of certified sellers to help identify demand and supply across the continent and the match both. Building capacity and supporting businesses to prepare and participate in continental trade fairs.

Monitoring integration: Building on the African Trade Observatory, using real-time data on trade flows within the promising value chains, to monitor the state of integration in support of the implementation of continental strategies. Strengthen national, subregional and continental trade barrier reporting systems.

Product authorizations: Sharing work among regulators across countries to reduce the workload – and therefore reduce time and cost related to product authorizations – and make it easier for goods to circulate across borders. This includes harmonizing data requirements across countries and cooperating in the scientific assessment of the data underlying authorizations (e.g. chemicals, pesticides).

Waste management, recycling and water and energy efficiency in production: Targeting the sustainability aspect of value chains It can include activities related to tech transfer, capacity building in production techniques, infrastructure development (e.g. related to water treatment and recycling) or policy-related work.

Access to finance: Improving access for MSMEs for short-term pre-shipment financing by scaling up innovative schemes.

Payment solutions: Supporting the rollout of the Pan-African Payment and Settlement System, including awareness raising and building the capacity of businesses, especially MSMEs, to use the system.

Assessing other promising value chains

This diagnostic examined only four value chains to determine their potential, opportunities for development and challenges to unlocking their potential. While these four value chains can connect at least five African countries, not all countries on the continent can competitively participate in them. It is therefore critical to widen the evidence base to include more value chains, with strategy design at a later stage, so all African countries are covered and can benefit from development and integration efforts.

The diagnostics should follow the example of the work done for automotive, pharmaceuticals, infant food and cotton clothing, notably including:

- ✓ Compiling and analysing data related to production, trade, market access, sustainability and geography to assess the strengths and weaknesses of the value chains
- ✓ Mapping of countries to value chains based on considerations of competitiveness, trade potential and production capacity
- ✓ Reviewing existing and potential linkages between the participating countries in each value chain
- ✓ Designing and distributing a questionnaire and a business survey across the value chains to document evidence on challenges and investment needs
- ✓ Consulting with stakeholders and experts to expand recommendations based on the evidence collected

'Made by Africa' can become a reality

Creating value through regional integration is vital today, given the extent to which the COVID-19 pandemic and the war in Ukraine have aggravated longstanding challenges, disrupted the global supply chains on which African countries largely depend and highlighted that many countries on the continent lack sufficient domestic resources.

In this context, tracing the path for sustainable, inclusive growth by developing key value chains at continental scale appears to be a strategic option that African countries can explore individually and collectively, bringing to fruition the market opportunities offered by the AfCFTA. Businesses across the continent confirm that 'Made by Africa' is not only possible. It has already started becoming a reality.

The image features a dark blue horizontal band across the middle. Above and below this band are abstract patterns of thin, light blue lines that curve and intersect to form a grid-like structure. A bright, glowing light source is visible in the upper left and lower right areas, creating a lens flare effect. The overall color palette is dominated by shades of blue, from deep navy to light sky blue.

APPENDICES

APPENDICES

ANNEX I: Methodology to construct value chains

ITC's approach to constructing international value chains, that lays the foundation for identifying the feasible and most promising ones, starts by categorizing all 5,353 products of the Harmonized System (HS) classification of international trade at the 6-digit level into outputs if they are processed and non-intermediate goods and inputs in all other cases. Information on the level of processing comes from the WTO classification of products by processing stage and on intermediate goods from OECD end-use classification.

Sector-level input-output tables from the United States, Mexico and the Philippines constitute the starting point for identifying input-output links. First, they are expanded to the product level. Figure 2 illustrates how this expansion works with four hypothetical sectors, two input sectors (I1 and I2), two output sectors (O1 and O2), and their corresponding products.

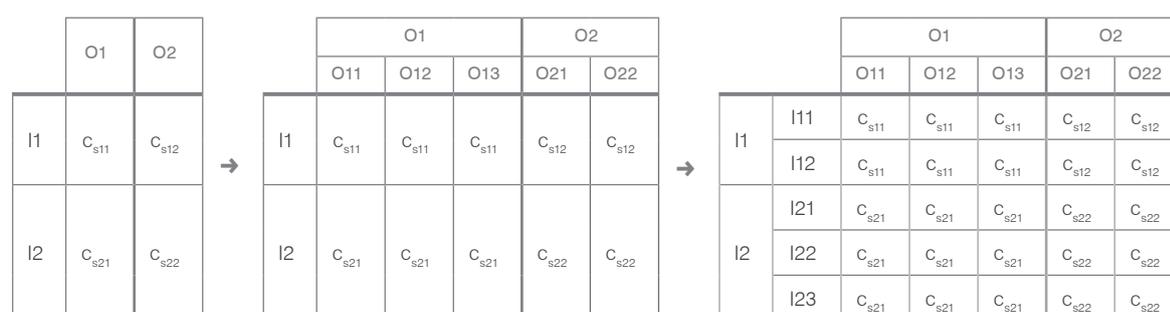
The first step of the expansion is to attribute to all output products their respective sector's technical coefficient. The technical coefficient captures the input requirements per unit of output.

The second step of the expansion repeats this procedure for the input products. At this step, all input products in a sector are considered potential inputs for all output products to which this sector contributes. For example, frozen bovine carcasses and frozen swine carcasses are in the same output sector, while bovine animals and swine are in the same input sector. Hence, the matrix expansion implies that swine is considered as an input to frozen bovine carcasses.

Second, inaccurate input-output links are removed wherever correct links can be identified using three approaches: word matching in product descriptions, information on input-output links from rules of origin provisions of over 70 trade agreements and non-preferential schemes, and manual corrections. In the example cited above, the word match of 'bovine' carcasses and 'bovine' animals allows us to conclude that bovine animals are used to produce bovine carcasses (and swine are not).

Third, technical coefficients are reallocated to all matched inputs for each output. 'Bovine' thus gets the full technical coefficient for frozen bovine carcasses and 'swine' obtains the full technical coefficient for frozen swine carcasses. This reallocation allows for a more exact representation of the share of each input in the production of the output. Finally, the technical coefficients from all three input-output tables are aggregated, weighted by each country's market share of the output product.

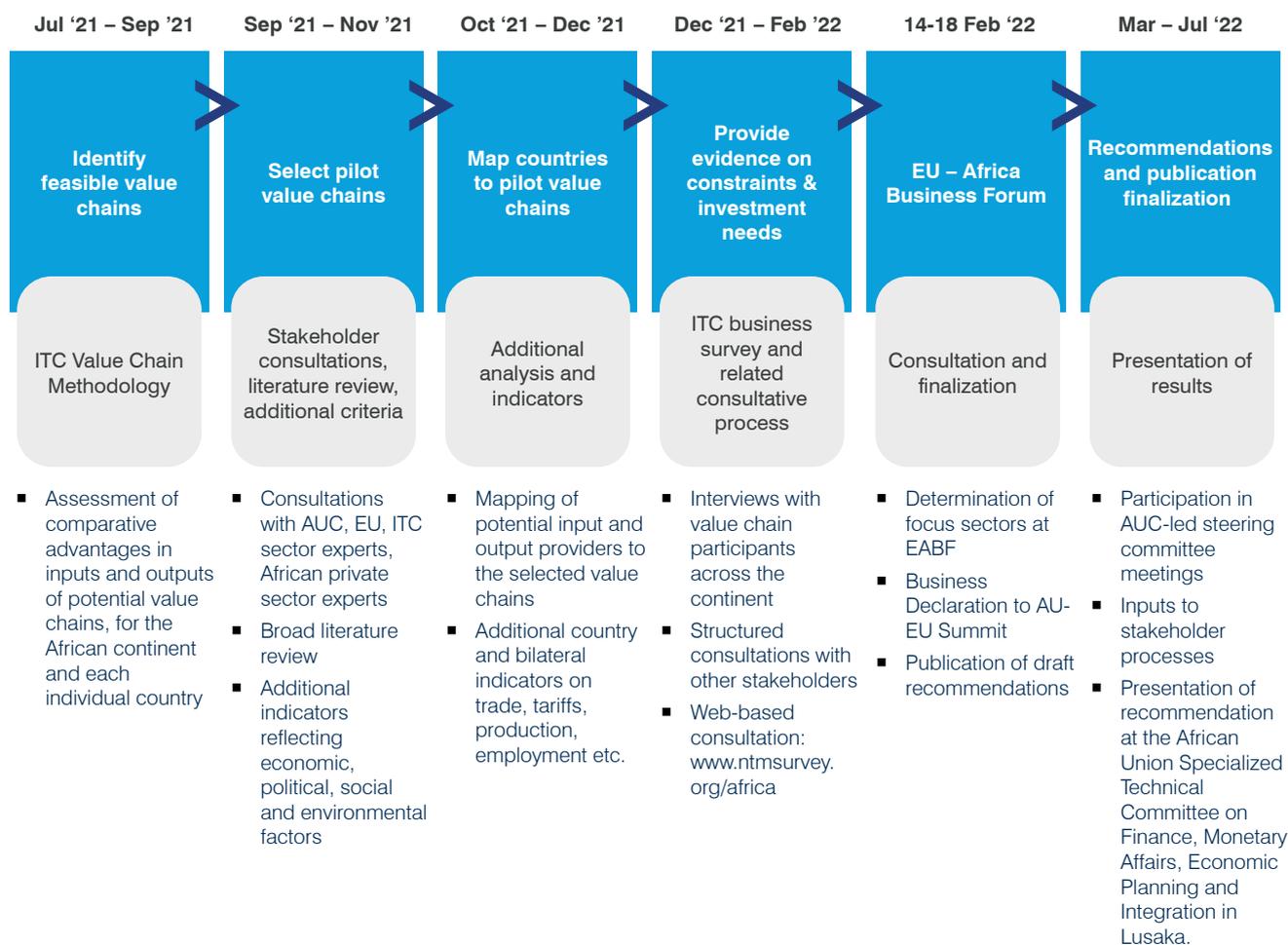
Expansion of input-output table to HS-based products



Note: Input sector I1 corresponds to products I11 and I12, input sector I2 corresponds to products I21, I22 and I23. For output sectors, O1 corresponds to products O11, O12 and O13, while O2 corresponds to products O21 and O22.

Similar outputs are then aggregated to one single value chain using again word matching techniques, the 4-digit level of the HS classification and additional information for example from the World Customs Organization classification of medical products. In the case of apparel, outputs and inputs are grouped into value chains according to their main material: apparel of cotton, apparel of wool, etc. This results in the identification of 415 distinct international value chains with all outputs matched to their corresponding inputs, and technical coefficients capturing the relative importance of each input in producing each output product.

ANNEX II: Value chain diagnostics: Process



ANNEX III: Overview of 94 promising value chains

The table below lists the 94 value chains that are promising for regional value chain integration in Africa. It displays the subsector of each value chain and the output product, and provides information on whether the continent as a whole has a revealed comparative advantage in the inputs or in the output of the value chain.

Furthermore, it contains the number of African countries that could potentially participate in the value chain as input or output providers, the number of least developed countries among them, the number of regions on the continent that could participate, as well as information on the projected import demand for the output product in Africa (yearly import demand over the coming five years) and the continent's trade balance in the output product as a share of total trade in the product.

94 feasible and promising value chains for value chain development and integration in Africa: Selected indicators

SUBSECTOR	OUTPUT	AFRICA HAS AN RCA IN	NUMBER OF COUNTRIES INVOLVED	NUMBER OF LDCS	NUMBER OF REGIONS	PROJECTED IMPORT DEMAND FOR AFRICA (\$ MN)	TRADE BALANCE/TOTAL TRADE FOR AFRICA	AVERAGE INTRA-AFRICAN TARIFFS ON INPUTS**
Apparel	Apparel of artificial fibres	Output	6	2	3	78	64%	2%
	Apparel of cotton*	Output	28	16	5	7.498	11%	5%
	Apparel of textile materials	Output	11	4	4	3.082	0%	6%
	Apparel of wool/fine animal hair	Output	8	3	3	287	45%	1%
	Swimwear & ski suits	Output	10	4	4	19	68%	4%
Beauty products & perfumes	Soap, incl. medicated products	Output	15	7	5	1.613	-30%	4%
Beverages (alcoholic)	Cider	Output	9	2	4	139	-5%	4%
	Spirits	Inputs	16	6	5	1.285	-63%	9%
	Wine of fresh grapes	Inputs	8	3	5	980	17%	4%
Beverages (not alcoholic)	Grape juice, incl. grape must, unfermented	Inputs	9	3	4	106	-59%	20%
	Grapefruit juice, unfermented	Output & inputs	11	5	3	3	93%	20%
	Juice of fruit or vegetables, unfermented	Output & inputs	15	7	4	478	-7%	16%
	Non-alcoholic beverages	Inputs	19	10	4	639	-34%	16%
	Orange juice, unfermented	Inputs	13	5	3	124	14%	18%
	Pineapple juice, unfermented	Output & inputs	21	10	5	37	34%	27%
	Tomato juice, unfermented	Inputs	11	5	4	1	-26%	21%
Chemicals	(Prepared) diagnostic/laboratory reagents & certified reference materials	Inputs	5	1	3	2.079	-84%	1%
	Swab and Viral transport medium set	Inputs	6	1	3	2.242	-51%	1%
Cocoa beans & products	Chocolate & other cocoa preparations	Inputs	23	12	5	1.008	-15%	7%
	Cocoa powder, sweetened	Output & inputs	23	12	5	23	32%	8%
Fish products (processed)	Aquatic invertebrates, excl crustaceans, prepared or preserved	Inputs	10	6	5	13	58%	6%
	Prepared or preserved mackerel	Output & inputs	19	11	5	66	21%	9%
	Prepared or preserved sardines	Output & inputs	13	6	5	635	20%	6%
Food products n.e.s. (processed or preserved)	Apricots, prepared or preserved	Output & inputs	12	5	3	2	88%	16%
	Beans, prepared or preserved	Output & inputs	22	13	5	64	44%	20%
	Bread, pastry	Inputs	24	12	5	1.505	-46%	7%
	Cereals in grain or flake form or other worked grains, pre-cooked or otherwise prepared	Inputs	21	12	5	387	-29%	9%
	Chewing gum	Output & inputs	16	7	4	271	-26%	12%
	Citrus fruit, prepared or preserved	Inputs	15	7	4	5	70%	10%
	Coffee extracts and preparations	Inputs	16	11	5	485	-30%	11%
	Couscous	Output & inputs	18	8	5	36	46%	12%
	Edible mixtures of fats, oil & fractions, chemically modified nes	Inputs	28	23	5	307	-76%	4%
	Edible parts of plants, prepared or preserved	Inputs	26	14	5	83	38%	11%
	Food preparations for infant use*	Inputs	39	23	5	1.311	-82%	7%
	Fruit jams or similar & nut pastes	Inputs	20	11	5	148	1%	9%
	Groundnuts, prepared or preserved, excl with sugar	Inputs	16	11	5	109	-44%	4%
	Ice cream & other edible ice	Inputs	12	6	4	104	-23%	6%
	Mixes & doughs of flour	Inputs	9	2	4	96	-42%	2%
	Nuts & other seeds, prepared or preserved	Inputs	15	10	4	104	-27%	4%
	Palm hearts, prepared or preserved, excl in vinegar	Inputs	19	10	4	1	-76%	12%
	Peas, prepared or preserved	Inputs	13	7	3	34	-86%	17%
	Potatoes, prepared or preserved	Inputs	6	2	3	348	-23%	2%
	Preparations for sauces & prepared sauces	Inputs	19	12	5	1.020	-49%	12%

Food products n.e.s. (processed or preserved) (cont.)	Soups & broths & preparations therefor	Output & inputs	25	13	5	606	-1%	14%
	Strawberries, prepared or preserved	Output & inputs	12	5	3	6	44%	9%
	Sugar confectionery not containing cocoa	Inputs	21	11	5	645	-36%	11%
	Sweetcorn, prepared or preserved	Inputs	15	9	4	50	-90%	4%
	Tea or mate extracts & preparations	Inputs	15	10	5	18	41%	6%
	Tomatoes, prepared	Inputs	9	4	4	1,066	-77%	6%
	Uncooked pasta	Output & inputs	18	10	5	1,108	-50%	9%
	Vegetables, prepared or preserved	Inputs	13	7	4	134	40%	9%
Footwear	Footwear, leather soles & uppers	Inputs	19	11	5	198	-28%	2%
	Footwear, rubber/plastic/leather soles & leather uppers	Inputs	24	12	5	1,343	-12%	4%
Home textiles	Home furnishings of textile materials	Output	8	3	2	158	4%	5%
	Home furnishings, knit/crochet	Output	8	3	3	399	-30%	9%
Jewellery & precious metal articles	Articles of pearls or semi-precious stones	Inputs	17	11	4	3	84%	0%
	Imitation jewellery, nes	Inputs	19	11	5	68	-56%	1%
Machinery, electricity	Batteries	Inputs	16	11	4	867	-87%	2%
	Electric rotary converters	Inputs	7	3	3	8	-71%	3%
	Electro-thermic domestic appliances	Inputs	6	2	4	1,164	-83%	5%
	Generating sets	Inputs	5	3	2	2,893	-93%	3%
	Instantaneous water heaters	Inputs	6	0	3	123	-81%	3%
	Lathes for removing metal	Inputs	5	2	2	109	-95%	2%
	Machinery for working metals	Inputs	5	2	2	698	-86%	3%
	Machines for working wood	Inputs	9	3	4	62	-96%	2%
	Magnets	Inputs	8	5	4	75	-67%	3%
	Rolling mills for metal	Inputs	5	2	2	96	-95%	2%
	Static converters	Inputs	15	11	4	1,976	-83%	1%
Metal products	Hand-operated tools and mechanical tools	Inputs	10	3	5	1,087	-84%	5%
	Household and office articles, of base metal	Inputs	8	1	4	660	-70%	5%
	Sanitary ware of iron or steel	Inputs	9	2	4	141	-83%	4%
	Knives, spoons & similar kitchen/tableware, of base metal	Inputs	5	1	4	274	-91%	3%
	Reservoir, tanks, containers of aluminium	Output	5	1	2	488	-32%	4%
	Sanitary ware, of copper	Inputs	10	3	4	19	-88%	3%
Miscellaneous manufactured products	Air heaters & hot-air distributors	Inputs	5		2	17	-91%	4%
	Matches	Output	5	2	2	99	-64%	2%
	Wigs and false hairs, of synthetics or human hair	Output	10	5	4	2,268	-72%	9%
Motor vehicles & parts	Motor cars*	No RCA	23	8	5	25,785	-24%	4%
	Balances	Inputs	7	3	4	16	-87%	2%
Optical products, watches & medical instruments	Medical/surgical equipment and consumables	Inputs	19	12	5	3,353	-70%	2%
	Orthopedic & other appliances	Inputs	19	14	4	878	-75%	1%
Paper products	Face masks of callulose/paper	Inputs	19	10	4	3	16%	2%
Pharmaceutical components	Gel preparations for medical purposes	Inputs	5	2	3	24	-73%	2%
	Pharmaceuticals*	No RCA	7	1	3	26,452	-88%	1%
Processed meat	Prepared meat or offal of bovine animals	Inputs	7	5	2	113	-52%	0%
	Prepared or preserved meat or meat offal of ducks	Inputs	10	6	4	9	0%	0%
Skins, leather & products thereof	Articles of (composition) leather	Inputs	22	13	5	342	-16%	3%
Textile fabric n.e.s.	Textile fabrics and tapestries	Output	5	1	3	21	-35%	4%
Vegetable oils & fats	Groundnut oil (excl crude) & fractions	Inputs	13	12	4	1	16%	8%
	Maize oil (excl crude) & fractions	Output & inputs	18	11	5	201	-38%	3%
	Soya-bean oil (excl crude) & fractions	Output	10	6	4	375	-44%	2%
	Sunflower-seed or safflower oil (excl crude) & fractions	Output	6	3	3	617	-49%	3%
Wood products	Articles of wood	Inputs	26	15	5	32	27%	7%
	Doors, windows & their frames of wood	Inputs	21	12	5	218	-42%	3%

* Tariffs are weighted by the export potential of the input and output providers and the technical coefficients for each input.

* For the four pilot value chains, an in-depth mapping of inputs and countries was conducted. In these value chains, countries identified as potential participants are those with an RCA or an export potential of at least \$10 million in the output and/or in at least one input of the value chain. In the other value chains, countries involved are identified based on revealed comparative advantage in the output and/or all inputs of the value chain combined.

ANNEX IV: Country value chain mappings



Pharmaceuticals

	MEDICINES	CHEMICAL AND PHARMACEUTICAL INPUTS
Egypt	✓	
Kenya	✓	
Mauritius	✓	
Morocco	✓	✓
South Africa	✓	✓
Tunisia	✓	
Uganda	✓	

✓ Export potential above \$10 million



Automotive

	Motor cars	Motor vehicle brakes	Motor vehicle wheels	Natural rubber	Paints & varnishes	Parts of motor vehicle bodies	Parts of motor vehicles, nes	Parts for spark-ignition internal engine	Plates, sheets, film, foil and strip, of non-cellular plastics	Plates, sheets, film, foil and strip, of plastics	Pumps for liquids	Used pneumatic tyres of rubber	Self-adhesive plates and other flat shapes, of plastics	Spark-ignition reciprocating piston engine	Synthetic rubber, mixtures of natural rubber	Tubes, pipes & hoses, of plastics
Algeria																
Botswana																✓
Cameroon				✓												
Côte d'Ivoire				✓												✓
Egypt	✓				✓				✓	✓						✓
Gabon				✓												
Ghana				✓												✓
Guinea				✓												
Kenya	✓				✓				✓							
Liberia				✓												
Libya																
Malawi				✓												
Mauritius												✓				
Morocco	✓	✓	✓		✓	✓	✓	✓		✓						✓
Nigeria				✓												
Senegal																
Sierra Leone												✓				
South Africa	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tanzania, United Republic of																
Tunisia						✓	✓	✓	✓	✓						✓
Uganda					✓											
Zambia																
Zimbabwe																

✓ Export potential above \$10 million

✓ Export potential of above \$10 million and RCA



Cotton Apparel

	Apparel of cotton	Auxiliary machinery for use with machines of heading 8444, 8445, 8446 or 8447	Buttons of plastics or base metal	Cotton, carded/combed	Cotton, not carded/combed	Denim with cotton	Knit/crochet cotton fabrics	Sewing thread of cotton	Single and folded/cabled cotton yarn	Slide fasteners	Woven fabrics of cotton
Benin					✓						
Burkina Faso					✓						
Cabo Verde	✓										
Cameroon					✓						
Central African Republic					✓						
Chad					✓						
Côte d'Ivoire					✓						✓
Egypt	✓			✓	✓	✓		✓	✓		✓
Eswatini	✓						✓			✓	
Ethiopia	✓					✓			✓		
Ghana											✓
Kenya	✓										
Lesotho	✓			✓		✓			✓		
Madagascar	✓		✓								
Malawi					✓						
Mali					✓						
Mauritius	✓		✓			✓	✓		✓		✓
Morocco	✓					✓					
Mozambique					✓				✓		
Senegal					✓						
South Africa	✓			✓	✓			✓			✓
Sudan					✓						
Tanzania, United Republic of	✓			✓	✓		✓		✓		
Togo					✓						
Tunisia	✓	✓				✓					
Uganda				✓	✓			✓			
Zambia					✓						
Zimbabwe	✓				✓				✓		

✓ Export potential above \$10 million

✓ Export potential of above \$10 million and RCA


Food preparations for infant use
Part I

	Food preparations for infant use	Oranges, fresh or dried	Packing containers, incl. record sleeves, of paper(-board)	Paper(-board) for graphic purposes, coated	Peaches, pears, papayas, etc., fresh or dried	Pepper (Capsicum or Pimenta), fresh	Pineapples, fresh or dried	Plums, fresh or dried prunes	Potatoes	Raspberries, blackberries, mulberries & loganberries, fresh or frozen	Roots & tubers nes, sago pith	Roots & tubers of manioc	Sacks & bags, of paper(-board)	Salad beetroot, salsify, celeriac, radishes, fresh	Spinach	Strawberries, fresh or frozen	Sweet potatoes	Tomatoes	Vegetables, fresh/chilled/frozen or dried
Algeria																			
Benin							✓												
Botswana																			
Burkina Faso											✓								
Burundi																			
Cameroon							✓					✓							
Central African Republic				✓															
Côte d'Ivoire							✓				✓								
Djibouti																			
Egypt	✓	✓	✓	✓					✓	✓		✓		✓	✓	✓	✓	✓	✓
Eswatini		✓																	
Ethiopia									✓	✓			✓		✓		✓	✓	✓
Gambia							✓												✓
Ghana	✓			✓		✓	✓			✓									
Guinea				✓															
Kenya			✓			✓	✓	✓	✓	✓		✓							✓
Lesotho																			
Libya																			
Madagascar				✓							✓								
Malawi																			
Mali											✓								
Mauritius				✓		✓													
Morocco		✓		✓	✓				✓	✓		✓	✓		✓			✓	✓
Mozambique				✓															✓
Namibia																			
Niger											✓								
Nigeria																			
Rwanda						✓	✓												
Senegal						✓						✓	✓					✓	✓
Sierra Leone							✓												
Somalia																			
South Africa	✓	✓	✓	✓				✓	✓	✓		✓					✓	✓	✓
Sudan																			
Tanzania, United Republic of												✓							✓

Endnotes

- 1 See Annex I for details.
- 2 In the computation of revealed comparative advantage in the set of inputs, each input is weighted according to its technical coefficient, which captures its relative importance in the production process (i.e. major inputs have a higher weight than minor inputs).
- 3 Africa as a whole currently does not have a revealed comparative advantage in inputs or outputs of both cars and pharmaceuticals. On the output side, only two African countries (Morocco and South Africa) have a comparative advantage in automobiles, and no African country in pharmaceuticals. On the input side, fewer than five countries have a comparative advantage for each value chain.
- 4 See Annex II for details.
- 5 For more information on the survey methodology, please see ITC (2015), *The Invisible Barriers to Trade – How businesses experience non-tariff measures*, available at www.ntmsurvey.org/publications.
- 6 ITC business surveys on non-tariff measures: www.ntmsurvey.org.
- 7 ITC and UNCTAD (2021). *Unlocking Regional Trade Opportunities in Africa for a More Sustainable and Inclusive Future*. https://umbraco.exportpotential.intracen.org/media/1255/regionaltradeafrica_20211206.pdf. This number excludes extractive resources, most importantly oil and gas.
- 8 International Cotton Advisory Committee (2021). The ICAC Recorder Volume XXXIX, No. 2, June 2021, available at https://icac.org/Content/PublicationsPdf%20Files/dc12ae98_fb9b_40dc_9649_8bd8776c749d/e-cotton-recorder2_2021_revised.pdf
- 9 World Bank (2015). *Women, Business and the Law 2016*
- 10 ITC (2015). *Unlocking Markets for Women to Trade*
- 11 UN Women (2019). *Opportunities for women entrepreneurs in the context of the African Continental Free Trade Area*.
- 12 World Bank (2013a). *Opening Doors: Gender Equality and Development in the Middle East and North Africa*.
- 13 ITC (2021). *Women's Participation in Trade in Uganda: Tapping into New Market Opportunities through Public Procurement and the AfCFTA - A Survey of Women-led Enterprises*. ITC, Geneva.

References

AfCFTA Secretariat and United Nations Development Programme (2021). The Futures Report 2021: Which Value Chains for a Made in Africa Revolution. (African Union) <https://www.africa.undp.org/content/rba/en/home/library/reports/futures-report-2021.html>

African Association of Automotive Manufacturers (n.d.). <https://aaamafrica.com/>

African Development Bank (2018). Textile and Clothing industries can drive Africa's industrialization, benefit women. African Development Bank Group. <https://www.afdb.org/en/news-and-events/textile-and-clothing-industries-can-drive-africas-industrialization-benefit-women-18427>

African Union Commission and United Nations Industrial Development Organization (2012). Pharmaceutical Manufacturing Plan for Africa Business Plan.

Bouët, A. and Odjo, S P. (2019). Africa agriculture trade monitor 2019. Washington, DC: International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/9780896296909>

Bouët, A., Tadesse, G., and Zaki, C. (2021). Africa agriculture trade monitor 2021. Washington, DC: International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/9780896293908>

Brookings Institution (2021). Greening the AfCFTA: It is not too late. Available at <https://www.brookings.edu/wp-content/uploads/2021/09/21.09.15-Greening-the-AfCFTA.pdf>

Byaruhanga, J. (2020). How Africa can manufacture to meet its own pharmaceutical needs. Africa Renewal. United Nations. <https://www.un.org/africarenewal/magazine/september-2020/how-africa-can-manufacture-meet-its-own-pharmaceutical-needs>

Campbell, J. (2020). Scaling Up African Pharmaceutical Manufacturing in a Time of COVID-19. Council on Foreign Relations. Available at <https://www.cfr.org/blog/scaling-african-pharmaceutical-manufacturing-time-covid-19>

Conway, M. et al. (2019). Should sub-Saharan Africa make its own drugs? McKinsey and Company. Available at <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/should-sub-saharan-africa-make-its-own-drugs>

Corrigan, T. (2020). Africa's ICT infrastructure: Its Present and Prospects. Policy Briefing 197. South African Institute of International Affairs. <https://saiia.org.za/research/africas-ict-infrastructure-its-present-and-prospects/>

Cronjé, JB. (2014). Development of Tourism value chains in the SADC region. Tralac. Available at <https://www.tralac.org/discussions/article/6518-development-of-tourism-value-chains-in-the-sadc-region.html>

C. Tuck, A. Maamri, A. Chan, and Z. Babar (2018). Medicines pricing, access and safety in Morocco. Available at <https://onlinelibrary.wiley.com/doi/full/10.1111/tmi.13191>

Daly, J. and Gereffi, G. (2017). Tourism global value chains and Africa. WIDER Working Paper 2017/17. Helsinki: UNU-WIDER. https://saiia.org.za/wp-content/uploads/2019/03/WIDER-Working-Paper-2017_17-Tourism-global-value-chains-and-Africa.pdf

Decreux, Y. and Spies, J. (2016). Export Potential Assessments. A methodology to identify export opportunities for developing countries. ITC Geneva. https://umbraco.exportpotential.intracen.org/media/1089/epa-methodology_141216.pdf

- Deloitte (2018). Africa Automotive Insights, an East African consumer perspective. Available at https://www2.deloitte.com/content/dam/Deloitte/za/Documents/Consumer_Industrial_Products/2018-A-Consumer-Perspective-Auto-280518.pdf
- European Commission, Joint Research Centre, Nechifor, V., Ferrari, E., Boysen, O., et al. (2021), Potential effects of the African Continental Free Trade Area (AfCFTA) on African agri-food sectors and food security, Publications Office, <https://data.europa.eu/doi/10.2760/531308>
- European Union Agency for Law Enforcement Cooperation (2022). Intellectual property crime threat assessment 2022. Available at <https://www.europol.europa.eu/publications-events/publications/intellectual-property-crime-threat-assessment-2022>
- European Union Intellectual Property Office and OCDE (2020). Trade in Counterfeit Pharmaceutical Products, Illicit Trade. Available at <https://euipo.europa.eu/ohimportal/en/web/observatory/trade-in-counterfeit-pharmaceutical-products>
- Federation International de l'Automobile (2020). Promoting safer and cleaner used vehicles for Africa. Available at https://www.fiaregion1.com/wp-content/uploads/2020/06/FIA-Report_Final-V3_HR.pdf
- Fessehaie, J. (2016). Regional Integration and High Potential Value Chains in West Africa. International Centre for Trade and Sustainable Development. <http://www.west-africa-brief.org/content/en/regional-integration-and-high-potential-value-chains-west-africa>
- Fessehaie, J., Rustomjee, Z. and Kaziboni, L. (2016). Mining-Related National Systems Of Innovation In Southern Africa: National Trajectories And Regional Integration. WIDER Working Paper 2016/84. Helsinki: UNU-WIDER. <https://www.wider.unu.edu/sites/default/files/wp2016-84.pdf>
- Guthiga, P. et al. (2017). Mapping Livestock Value Chains in IGAD Region. CTA Discussion Paper. International Livestock Research Institute. <https://www.ilri.org/publications/mapping-livestock-value-chains-igad-region>
- Helble, M. (2012). More Trade for Better Health? International Trade and Tariffs on Health Products. Economic Research and Statistics Division, World Trade Organization. https://www.wto.org/english/res_e/reser_e/ersd201217_e.pdf
- Ibrahim, G. et al. (2019). Industrial Development and ICT in Africa: Opportunities, Challenges and Way Forward. Policy Brief, G20 Insights. <https://www.g20-insights.org/wp-content/uploads/2019/05/t20-japan-tf5-3-industrial-developmentict-africa-1.pdf>
- International Finance Corporation. Sub-Saharan Africa Priorities: Agribusiness. See https://www.ifc.org/wps/wcm/connect/REGION_EXT_Content/IFC_External_Corporate_Site/Sub-Saharan+Africa/Priorities/Agribusiness/ (accessed 15 September 2021)
- International Trade Centre (2012 - 2022). Invisible barriers to trade series (Formerly: ITC's Series on Non-Tariff measures). Available at <https://ntmsurvey.intracen.org/publications/itc-series-on-ntms/>
- International Trade Centre (2015). Unlocking Markets for Women to Trade. Available at <https://intracen.org/resources/publications/unlocking-markets-for-women-to-trade>
- International Trade Centre (2018). *Exploring Malawi's Export Potential*. ITC Geneva. https://umbraco.exportpotential.intracen.org/media/1119/exploring-malawi-export-potential_final-low-res.pdf
- International Trade Centre (2021). ITC's Monthly Trade Briefs on The Global State of Trade. Available at <https://tradebriefs.intracen.org/2021/8#spotlight>
- International Trade Centre (2021). *Women's Participation in Trade in Uganda: Tapping into New Market Opportunities through Public Procurement and the AfCFTA - A Survey of Women-led Enterprises*. Available at https://ntmsurvey.intracen.org/media/12380/uganda_challenges_for_women_2021.pdf
- International Trade Centre and United Nations Conference on Trade and Development (2021). *Unlocking Regional Trade Opportunities for in Africa for a More Sustainable and Inclusive Future*. ITC, Geneva. https://umbraco.exportpotential.intracen.org/media/1238/regionaltradeafrica_20211206.pdf

- M. Haji, L. Kerbache, K. Mahaboob and T. Al-Ansari (2021). Critical Success Factors and Traceability Technologies for Establishing a Safe Pharmaceutical Supply Chain. Available at <https://pubmed.ncbi.nlm.nih.gov/34842786/>
- Meliado, F. et al. (2019). Unlocking the hidden value of cotton by-products in African least developed countries. United Nations Conference on Trade and Development.
- Moderna (2021). Moderna to Build State-of-the-Art mRNA Facility in Africa to Manufacture up to 500 Million Doses Per Year. Press Releases. <https://investors.modernatx.com/news-releases/news-release-details/moderna-build-state-art-mrna-facility-africa-manufacture-500>
- Moshoeshoe et al. (2022). An exploratory assessment of the legislative framework for combating counterfeit medicines in South Africa. Available at <https://jopp.biomedcentral.com/articles/10.1186/s40545-021-00387-8>
- Mustafa Omer, A. (2019). Some Aspects of Fake and Counterfeiting of Drugs: Sudan Case. Available at <https://www.iomcworld.org/articles/pharmacovigilance-2019-some-aspects-of-fake-and-counterfeiting-of-drugs-sudan-case-abdeen-mustafa-omer-occupational-heal.pdf>
- Mutisa, K. (2019). Volkswagen brings first electric cars to Rwanda. The Exchange. <https://theexchange.africa/africa/volkswagen-brings-first-electric-cars-to-rwanda/>
- Ncube, P. et al. (2017). The Southern African poultry value chain. WIDER Working Paper 2017/97. Helsinki: UNU-WIDER. <https://www.wider.unu.edu/sites/default/files/wp2017-97.pdf>
- Ozawa, S. et al. (2018). Prevalence and Estimated Economic Burden of Substandard and Falsified Medicines in Low- and Middle-Income Countries a Systematic Review and Meta-analysis. Available at <https://pubmed.ncbi.nlm.nih.gov/30646106/>
- Staritz, C., Morris, M., Plank, L. (2015). Clothing Global Value Chains and Sub-Saharan Africa: Global Exports, Regional Dynamics, Industrial Development Outcomes. Draft Policy Briefing Paper. Commonwealth Secretariat. https://saiaa.org.za/wp-content/uploads/2016/04/004-Morris-Starlitz-and-Plank_FINAL-for-printing.pdf
- United Nations Conference on Trade and Development (2017). From Regional Economic Communities to a Continental Free Trade Area: Strategic tools to assist negotiators and agricultural policy design in Africa. (United Nations publication, New York and Geneva). https://unctad.org/system/files/official-document/webditc2017d1_en.pdf
- United Nations Conference on Trade and Development (2018). Identifying Regional Value Chains in Leather and Leather Products in Africa. (United Nations publication, New York and Geneva). https://unctad.org/system/files/official-document/gdsecidc2017d6_en.pdf
- United Nations Economic Commission for Africa (2018). The potential for the creation of Regional Value Chains in north Africa: a sector-based mapping. Available at <https://repository.uneca.org/bitstream/handle/10855/41843/b11929157.pdf?sequence=1&isAllowed=y>
- United Nations Economic Commission for Africa (2020). Time for integrated regional value chains in Central Africa. United Nations Economic Commission for Africa. Media Centre. <https://archive.uneca.org/stories/time-integrated-regional-value-chains-central-africa>
- United Nations Economic Commission for Africa (2021). ECA's Value Chain Investment Tool for Central Africa Gains Traction. Available at <https://www.uneca.org/stories/eca%E2%80%99s-value-chain-investment-tool-for-central-africa-gains-traction>
- United Nations Environment Programme (2020). Used vehicles and the environment: a global overview of used light-duty vehicles. Available at <https://wedocs.unep.org/handle/20.500.11822/34175>
- UN Women (2019). Opportunities for women entrepreneurs in the context of the African Continental free Trade Area. Available at: <https://africa.unwomen.org/en/digital-library/publications/2019/07/opportunities-for-women-in-the-actfa>

- United Nations World Tourism Organization (2020). UNWTO Adapts Agenda for Africa to Accelerate Tourism Recovery. Available at <https://www.unwto.org/news/unwto-adapts-agenda-for-africa-to-accelerate-tourism-recovery>
- United Nations World Tourism Organization (2021). AFRICA NEWS | VOLUME 19. APRIL 2021. See <https://www.unwto.org/africa/africa-news-volume-19-april-2021> (accessed 15 September 2021).
- Usman, Z. and Ovidia, U. (2021). Is There Any COVID-19 Vaccine Production in Africa?. Carnegie Endowment for International Peace. <https://carnegieendowment.org/2021/09/13/is-there-any-covid-19-vaccine-production-in-africa-pub-85320>
- Valerio, V. C. et al. (2020). Network analysis of regional livestock trade in West Africa. PLOS ONE 15(5): e0232681. <https://doi.org/10.1371/journal.pone.0232681>
- West Africa Competitiveness Programme (n.d.). Textiles and Garments Value Chains: West Africa Competitiveness Programme. See <https://wacomp.projects.ecowas.int/value-chains/textile-and-garment/>
- World Bank (2013). Opening Doors: Gender Equality and Development in the Middle East and North Africa. Available at <https://openknowledge.worldbank.org/handle/10986/12552>
- World Bank (2013). Growing Africa: Unlocking the Potential of Agribusiness. World Bank. Washington, D.C. <https://documents1.worldbank.org/curated/en/189541468007537925/pdf/759720REPLACEM0mmary0pub03011013web.pdf>
- World Bank (2015). Women, Business and the Law 2016. Available at <https://thedocs.worldbank.org/en/doc/810421519921949813-0050022015/original/WomenBusinessandtheLaw2016.pdf>
- World Bank (2016). Factory Southern Africa? SACU in Global Value Chains. World Bank. Washington, D.C. <https://documents1.worldbank.org/curated/en/973351468195001238/pdf/102850-WP-P149486-Box394847B-PUBLIC-Factory-Southern-Africa-FINAL-PUBLISH-002.pdf>
- World Economic Forum (2021). Connecting Countries and Cities for Regional Value Chain Integration Operationalizing the AfCFTA. World Economic Forum. Geneva. http://www3.weforum.org/docs/WEF_Regional_Value_Chain_Integration_Automotive_Case_Study_2021.pdf
- World Health Organization (2021). Inside Africa's drive to boost medicines and vaccine manufacturing. World Health Organization. Ethiopia. <https://www.afro.who.int/news/inside-africas-drive-boost-medicines-and-vaccine-manufacturing>
- World Health Organization (2018). Global status report on road safety. Available at <https://www.who.int/publications-detail-redirect/9789241565684>
- World Trade Organization (2021). Impacts of COVID-19 pandemic on cotton and its value chains: the case of C-4 and other LDCs. N/AG/SCC/W/40 - WT/CFMC/W/97. World Trade Organization. Geneva. [Impacts_of_the_COVID-19_pandemic_on_cotton_and_its_value_chains_Study_Web_E.pdf](https://www.wto.org/Trade_Economics/Trade_Economics/Trade_Economics/Impacts_of_the_COVID-19_pandemic_on_cotton_and_its_value_chains_Study_Web_E.pdf)



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